A·I·A

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS

March 1963

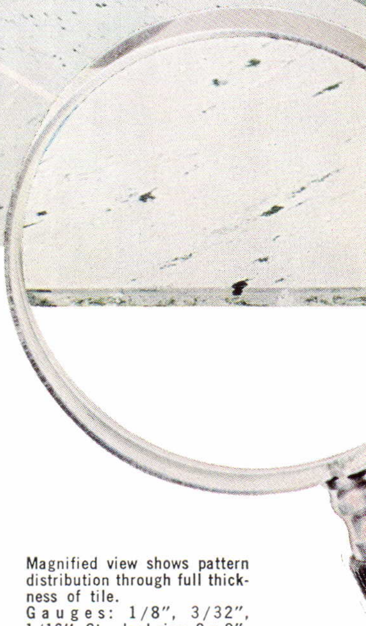


TRADITIONAL WOOD HOUSES OF TURKEY · PRESERVING THE SYMBOL OF BOSTON

AIA'S 1963 CONVENTION CITY · ARCHITECTURAL COMPETITIONS—A SYMPOSIUM



Colors: V-815 San Marino, V-817 Adriatic with white feature strip



Vina-Lux® 800 *Series*

unique floor beauty that won't "walk off"...

. . . because the distinctive color-chip pattern is distributed through the full thickness of the tile. 800 Series in Vina-Lux vinyl asbestos tile retains its beauty and pattern under the heaviest concentrations of traffic . . . delivers so much more value and performance than surface patterns . . . yet costs no more. Specify Vina-Lux 800 Series, for installation over concrete — above, on or below grade, or over wood or plywood subfloors. Consult Sweet's Catalog — or let us send you samples, color charts and detailed architectural specifications. Azrock Floor Products Division, Uvalde Rock Asphalt Company, 592-A, Frost Building, San Antonio.

Magnified view shows pattern distribution through full thickness of tile. Gauges: 1/8", 3/32", 1/16". Standard size: 9 x 9". Modular size: 12 x 12" available in quantities of 9000 square feet per color — at no extra charge.

See us at the
A.I.A. CONVENTION
Exhibit # 411

an exclusive styling by AZROCK®

The Journal of The American Institute of Architects, official organ of the Institute, is published monthly at The Octagon, 1735 New York Avenue, N. W., Washington 6, D. C., Ex 3-7050. Editor: Joseph Watterson FAIA. *Subscription in the United States, its possessions, and Canada, $5 a year in advance; elsewhere $6.50 a year. Chapter Associate members, $2.50. Students, $2.50, Members of Associations of allied professions, $2.50 (by special group arrangement). Single copies 75¢.* *Second Class postage paid at Washington, D. C. Change of Address: Notify The Octagon, giving both old and new addresses. Allow four weeks. Official address of the Institute as a N. Y. Corporation: 115 E. 40th Street, New York, N. Y. Printed in Washington, D. C. by Judd & Detweiler, Inc.*

BPA

Opinions expressed by contributors are not necessarily those of AIA

A·I·A Journal

VOLUME XXXIX, NO. 3 MARCH 1963

ARCHITECTURAL COMPETITIONS: A SYMPOSIUM

PROFESSIONAL

TECHNICAL

ACSA

COVER

Courtyard of Turkish house in Birgi (p 36). Halit Gokberk photo

THE AMERICAN INSTITUTE OF ARCHITECTS

Board of Directors

Officers

President	Henry L. Wright FAIA, 1125 W 6th St, Los Angeles 17, Calif
First Vice President	J. Roy Carroll Jr FAIA, 6 Penn Center Plaza, Philadelphia 3, Pa
Second Vice President	Arthur Gould Odell Jr FAIA, 102 W Trade, Charlotte, NC
Secretary	Clinton Gamble FAIA, PO Box 2465, Ft Lauderdale, Fla
Treasurer	Raymond S. Kastendieck FAIA, 128 Glen Park Ave, Gary, Ind
Executive Director	William H. Scheick AIA

Regional Directors

(Terms expire 1963)

Central States	Oswald H. Thorson AIA, 219 Waterloo Bldg, Waterloo, Iowa
Florida	Robert M. Little FAIA, 2180 Brickell Ave, Miami, Fla
California	Malcolm D. Reynolds FAIA, 916 Kearny St, San Francisco, Calif
Texas	Reginald Roberts AIA, 2600 N McCullough Ave, San Antonio, Tex
Illinois	William Bachman AIA, 7111 State Line Ave, Hammond, Ind
Pennsylvania	William W. Eshbach AIA, 1519 Walnut St, Philadelphia, Pa

(Terms expire 1964)

East Central	James Allan Clark AIA, Henry Clay Sta, Box 57, Lexington, Ky
New York	Morris Ketchum Jr FAIA, 227 E 44th St, New York, NY
New England	James Lawrence Jr FAIA, 711 Boylston St, Boston, Mass
Ohio	George B. Mayer FAIA, 616 The Arcade, Cleveland, Ohio
North Central	Julius Sandstedt AIA, 135 Market St, Oshkosh, Wis
Western Mountain	R. Lloyd Snedaker AIA, 12 Post Office Pl, Salt Lake City, Utah

(Terms expire 1965)

Middle Atlantic	Charles M. Nes Jr FAIA, 2120 N Charles St, Baltimore 18, Md
Michigan	Adrian Nelson Langius FAIA, 131 Lewis Cass Bldg, Lansing 13, Mich
Gulf States	G. Scott Smitherman AIA, 960 Jordan St, Shreveport, La
Northwest	Robert L. Durham FAIA, 1100 Denny Way, Seattle 9, Wash
South Atlantic	William Ernest Freeman Jr AIA, 226 W Washington St, Greenville, SC

Headquarters

1735 NEW YORK AVENUE NW, WASHINGTON 6, DC

Executive Director	William H. Scheick AIA
Secretary to the Executive Director	Mabel Day
Legal Counsel	Samuel Spencer
Director, Administrative Services	J. Winfield Rankin, Hon AIA
Administrative Assistant	Dale Wharton
Comptroller	William G. Wolverton
Membership	Florence H. Gervais
Personnel	Jane Dougherty
Director, Public Services/Urban Programs	Matthew L. Rockwell AIA, AIP
Editor of the Journal	Joseph Watterson FAIA
Associate Editor	Robert E. Koehler
Advertising Manager of the Journal	Mary H. Ranta
Information Services	James Bailey
Institute Relations	Kenneth C. Landry AIA
Project Head, Urban Design	Paul D. Spreiregen
Supervisor, Graphic Arts	Marilyn S. Housell
Exhibit Services and Foreign Visitors	Alice Graeme Korff
Awards Services	Faynetta W. Nealis
Director, Professional Services	M. Elliott Carroll AIA
Architectural-Building Information Services	Theodore W. Dominick AIA
Chapter and Student Affairs	M. Elliott Carroll AIA (Acting)
Education	Maurice William Perreault AIA
Assistant to Education	Monica F. Fuller
Historian	Henry H. Saylor FAIA
Librarian	George E. Pettengill, Hon AIA
Assistant Librarian	Mary E. Osman
Professional Practice & Technical Secretary	Robert J. Piper AIA
Research Secretary	Eric Pawley AIA
Assistant to Research Secretary	Marilyn E. Ludwig



(*) Detroit Bank & Trust Company Building, Detroit

URBANISMS

A regular column by our specialist on urban affairs, Matthew L. Rockwell, Director of Urban Programs

The Architect in Regional Planning

For the last few years, architects have had much to say about city planning and the place of the architect in this field. There are many who say that the architect has neglected his responsibility as a leader in the form-making of our cities. This attitude does not do justice to two small bands of architects who have been leaders in a most accurate sense of the word.

The first group is known officially as the Border Planning Committee of The Institute. Active in the three states of California, Arizona and Texas along the international boundary with Mexico (and together with a corresponding group of Mexican architects), the Committee has worked to develop correlated planning of the dozen or so important cities which face each other across the international boundary. A detailed story of this Committee's work was given in the December *Journal*.

Further north in Illinois, Indiana, Wisconsin and Michigan, a group of heroes all the way from Milwaukee to Muskegon has been meeting religiously for two years. They have talked about how the future of the Lake Michigan Region can best be promoted through "comprehensive regional planning." These architects, all Institute members, come from the four contiguous chapter groups in the area. With little financial help and many of their own Saturdays, they discuss everything from the need to correlate highways to the need to preserve public open space, such as the Indiana Dunes area. The group is known officially as the Lake Michigan Region Planning Council.

I wrote earlier that the two groups which I have described were leaders in the true sense of the word. While others have been talking about city planning, these men have confronted the intangibilities of regional planning. Anyone who has lived on the corporate line of one village and seen an incompatible business or industry develop across the street from him in an adjacent community will know why regional planning must be a part of our thinking of the future. Since the days of the National Resources Planning Board, in the late thirties, we have had little regional thinking on an official level. But the current provisions of Section 701 of the Urban Planning Assistance Program of URA are an exception.

In a number of positive directions, the URA provides assistance to small cities, which are a part of large urban complexes, to large metropolitan areas, to urban regions and to states as a whole, including situations where the planning area extends into two or more states. Because of a certain native negativism on the part of the voter to intercommunity government, intercommunity planning has not developed rapidly. URA funds for the above purposes are available to speed cooperative planning between communities; private subscription has been helpful but relatively ineffectual. The movement needs promotional and imaginative assistance, and, as in the field of city planning, the architect is in a special position to make a significant contribution.

Those who doubt the ability of the architect to contribute to regional planning have only to apply the perceptive thinking of Kevin Lynch to the problem. Those who have read Professor Lynch's book, "The Image of the City," will understand partially what I am saying, but to all readers who are interested in this field, we commend the study prepared by students under Lynch's direction at MIT entitled "The Form of the Metropolitan Sector, Washington and the Maryland Peninsula." In this study the purpose was "to come to grips with metropolitan form, with special emphasis on the visual consequences of that form." In five student solutions there has been an attempt "to plan this metropolitan sector so that its parts would seem vivid, distinct and recognizable, and so that those parts would be easy to put together into a general pattern." Lynch says further that "it is desirable that this visual structure be congruent with the patterns of activity that make up the human community; and perhaps, if we could manage it, that this visual form even be expressive of those human actions and aspirations."

In another interesting study, architect-planner Arch Rogers and others, analyzing the improvement prospects for the city of Albany, NY, displays in a commission for the New York State government the practical potential of architects in the field of regional planning. In an extremely graphic presentation, this study moves in sequence from the place of Albany in the northeast region of the US, to its place in New York State, thence to its place in the Hudson-Mohawk Valley zone, and then to its impact upon the immediate tri-city area surrounding Albany. Finally, the future of the core of Albany reflected against this background stands starkly clean and apparent to all readers.

Our last project, the report entitled "New Towns, a Proposal for the Appalachian Region," prepared by the Department of Architecture at the University of Kentucky, illustrates the development of regional architecture with sociological overtones. For an area historically depressed, this study by architects suggests the way to replacement of scattered and unproductive farm-sites by the correlated development of New Towns. In these fresh communities the concentration of approximately 50,000 persons will bring the advantages of better education, living conditions and mass production of needed facilities. The amenities of the Cumberland plateau to which modern community design can be adapted will result in a handsome environment.

By diverse means architects have become lonely leaders in a broader aspect of planning; now they can afford to have additional companions.

An Afterthought

We might also be reminded of the major role of architectural design in the Tennessee Valley regional planning and the New York Regional Plan of Clarence Stein, which attracted widespread attention in professional circles.

Then there was Thomas Jefferson, so notable for his architectural achievements, who is less known as a city and regional planner. As early as 1802, he proposed a public works plan for the entire United States, such as it existed at that time. This may well stand as a landmark for the first regional plan of this nation. ◄



Do your door specifications hold water?

They do! . . . IF your specifications for overhead-type doors are based on PERFORMANCE STANDARDS. Now, for the first time in the door industry, Barber-Colman Company provides a personalized service that helps you establish door performance standards required by each client. ■ Called the DOOR SYSTEM ANALYSIS, this comprehensive plan analyzes and appraises *door sealing efficiency, section construction, counter balancing reliability, control methods* . . . all factors affecting materials handling, labor, housekeeping maintenance and other building operating costs. ■ This plan justifies initial cost of door equipment . . . identifies penalty your client will pay with inefficient, inferior quality doors . . . determines a firm, accurate budget figure at preliminary planning stage. Write us or ask the Barber-Colman dealer near you for more details on OVERdoors and Door System Analysis.

BARBER COLMAN

BARCOL

BARCOL OVERdoor COMPANY

SHEFFIELD, ILLINOIS

Subsidiary Barber-Colman Company, Rockford, Illinois

Letters

The Bauhaus: Setting the Record Straight

EDITOR, *Journal of the AIA:*

I was interested, and a little surprised, to read the letter from Dr Walter Gropius in your January issue. The "statements on the Bauhaus" to which Dr Gropius takes exception were not, as is said in the first sentence of that letter, "reprinted in your paper"; they were made by Mr Howard Dearstyne in an article, "The Bauhaus Revisited," in the October issue of the *Journal of Architectural Education.* My surprise was caused by your having let that "reprinted" get past.

As a matter of fact, Dr Gropius, though evidently not understanding the precise relationship that exists between our respective publications—a relationship which might, I suppose, be described as one of physical cohabitation with editorial independence—was aware of their true source. This I know because in November I received from Dr Gropius a letter identical with that published by you, except that he said in the first sentence that "some statements on the Bauhaus" had been "made" (not "reprinted") in the *Journal of Architectural Education.* I assured Dr Gropius that we would print his letter in the *JAE,* and I sent a copy of it to Mr Dearstyne, who in due course sent back a full and reasoned reply for publication with it.

It is understandable that you should hasten to print a letter from a Fellow of the Institute so much honored as Dr Gropius. In order that the record may be put straight, and out of courtesy to Mr Dearstyne (who went to the trouble of composing a reply to Dr Gropius's letter some weeks ago, only to see that letter appear, without his reply, in an unexpected place), may I ask you to print this too at the earliest opportunity?

I should add that in fulfillment of promises made to Dr Gropius and Mr Dearstyne, and out of a sense of obligation to those of its readers who do not read the *Journal of The American Institute of Architects,* the *JAE* will print Dr Gropius's letter together with Mr Dearstyne's reply as soon as it appropriately can.

MARCUS WHIFFEN
Editor, Journal of Architectural Education
Tempe, Ariz

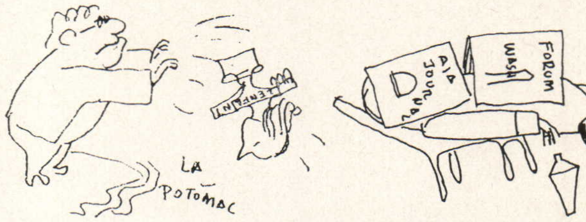
Continued Applause

EDITOR, *Journal of the AIA:*

The articles, "Personal Space" and "Design for Friendship," which appeared in the December *Journal* were indeed thought-provoking. Landscape architects are intimately concerned with these types of spaces whether the spaces are private gardens or institutional courts. Clients are aware that the planning of unroofed space is desirable and, like the architect in structural decisions, it behooves the landscape architect to translate this awareness into practicable efficiency.

The AIA *Journal* performs a worthwhile function in presenting these types of articles for interdisciplinary consumption.

HERRICK H. SMITH
Associate ASLA
Oklahoma State University
Stillwater, Okla



L'Enfant: The Last Words

EDITOR, *Journal of the AIA:*

If there's anything that's talked out and overdone, *it's L'Enfant's Plan for Washington.*

ALFRED BENDINER FAIA
Philadelphia, Pa

EDITOR, *Journal of the AIA:*

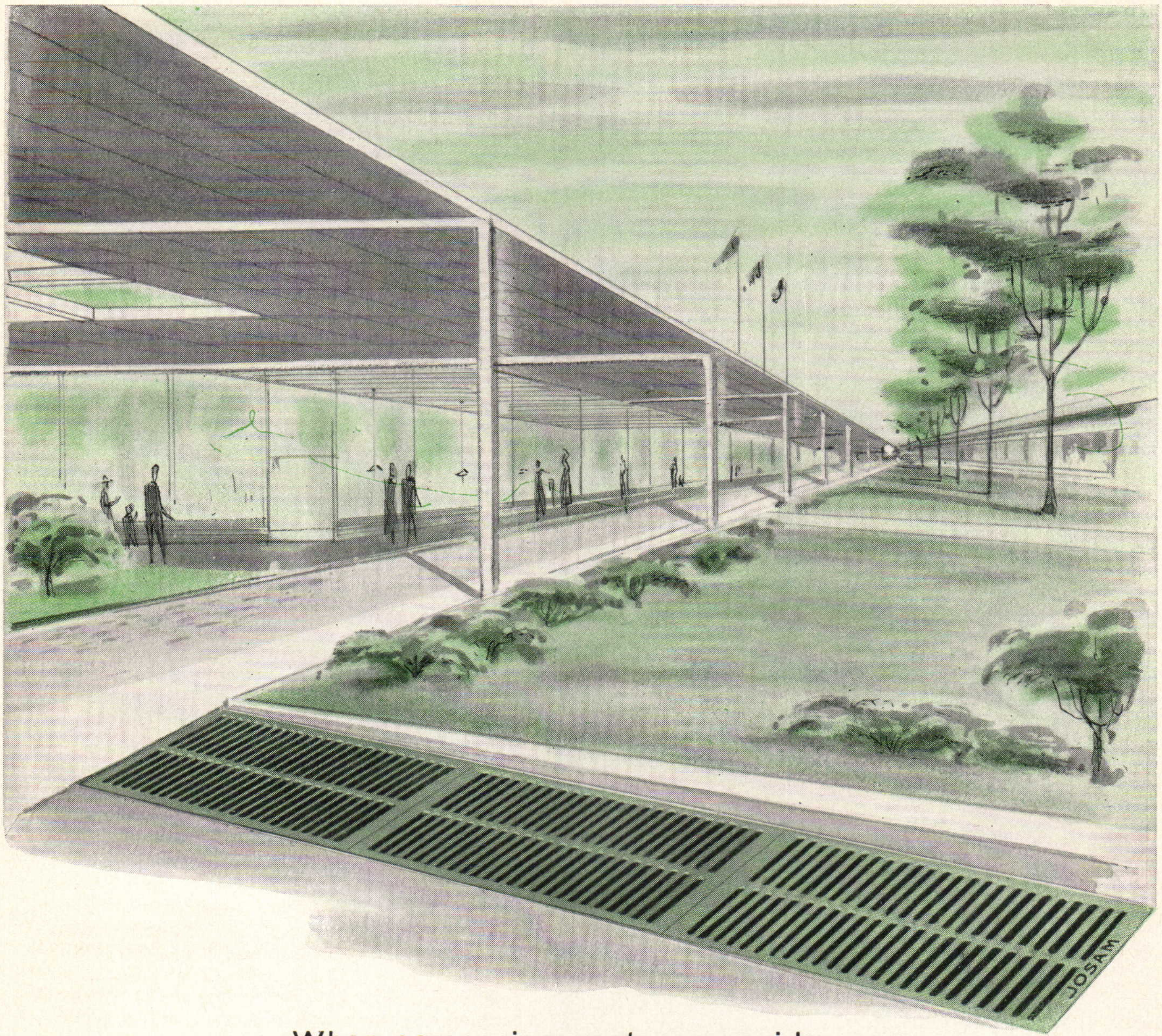
There are a few inaccuracies in the lead article of the January issue of the *Journal,* "The L'Enfant Plan for Washington," that should be cleared up to prevent their being perpetuated, and a few points that might also be elaborated, in the interest of greater clarity.

1 At the outset, in the first paragraph, Congress was meeting in New York City in July 1790, not Philadelphia in 1791, when the Potomac site was selected. The veteran's riot in Philadelphia in 1783 was one reason that the Constitutional Congress ultimately adopted a provision for the site of a Federal District, "not to exceed ten miles square," in the Constitution of the United States, but it was only in 1790, after many years of wrangling, that the present site was decided upon.

2 By way of amplification, both Hamburg (or Funkstown) and Carrollsburg (not "Carrolltown") were laid out as unincorporated towns, but were sparsely settled at the time of the establishment of the Federal city, and scarcely could be considered towns in 1791 except in the sense that the land had been subdivided and that there were a few houses and a wharf at Carrollsburg.

3 Jefferson did indeed sketch a plan to illustrate how the land might be laid out, but the President's House and Capitol building were not "sited on the bluffs *above* Hamburg." The President's House was located in the middle of the Hamburg plat, at approximately the present site of 23rd and F Streets NW, with the Capitol on "Beall's levels" to the east at about the present site of 14th and F Streets NW. Jefferson's sketch shows the outline of Hamburg superimposed upon his plan, which makes a fairly accurate description possible. Jefferson, furthermore, was not confused about the prospects of Hamburg, which was at the mouth of Tyber Creek, as a natural harbor. He wrote to L'Enfant on April 10, 1791:

(Continued on p 16)



When comparing costs . . . consider

The Advantages which you cannot see in a Josam Drain

Two drains may look the same. Even cost approximately the same. But in a Josam drain you get many extra advantages. Almost 50 years of pioneering in plumbing drainage products, and the continuous development of the most advanced designs in the field. Quality that is far better than required. Vast inventories to meet installation schedules. A network of experienced representatives ready to render immediate service. Easier installation . . . better service . . . dependable performance — these are the "extras" you get *at no extra cost* when you say "Let's use Josam!"

JOSAM MANUFACTURING CO.
General Offices and Manufacturing Division • Michigan City, Ind.
REPRESENTATIVES IN ALL PRINCIPAL CITIES
West Coast Distributors
JOSAM PACIFIC CO.
765 Folsom Street San Francisco 7, Calif.
JOSAM PRODUCTS ARE SOLD THROUGH PLUMBING SUPPLY WHOLESALERS
Manufacturers and Representatives in Mexico — HELVEX, S.A., Mexico City

Josam
PLUMBING DRAINAGE PRODUCTS

Letters (Cont'd)

". . . the commerce of the place . . . will undoubtedly establish itself on the deep water towards the Eastern branch and mouth of Rock Creek; the water about the mouth of the Tyber not being of any depth."

4 It is stated, "L'Enfant had a collection of maps showing many of the principal cities of the world together with a book of drawings of many important buildings." This is so, but it is somewhat misleading not to mention that he had requested them in a letter, April 4, 1791, and received these maps and plans from Jefferson on April 10 of the same year.

5 L'Enfant did not have a survey map of the site when he began his work, but it "was not an obstacle" only in the sense that he proceeded to prepare it himself, and it "proved to be an advantage" only in the sense that he was forced to supervise its preparation. I feel that the conclusions drawn from this fact in the article are perfectly correct, but somehow the impression is gained that he went about this part of the work in a rather informal or haphazard way. Remembering that Washington himself was a trained surveyor, it is highly unlikely that L'Enfant would have been inclined to risk the displeasure of the man to whom he owed his commission by doing anything less than the best he could do. His first act was an effort to prepare an accurate survey map and, in his own words, "the internal content of the district was surveyed in the most menutial (sic) way by the most laborious operations (which no ordinary surveyor of land is called upon to understand)."

The "only" surviving L'Enfant sketch, reproduced in copy on page 31 of the *Journal,* is probably (Caemmerer, "Life of Pierre Charles L'Enfant," p 162) a copy of L'Enfant's site survey in the form of a progress plan, submitted to Washington by L'Enfant on a visit to Mount Vernon on June 22, 1791. This site survey, with superimposed preliminary city plan, and a detailed description of the plan at that stage of development, was found among the Mount Vernon papers.

6 Daniel Carroll of Duddington started to erect the house, that was demolished by L'Enfant's orders, on the square bounded by E, F, 2nd Streets and New Jersey Avenue SE, not "in the middle of Pennsylvania Avenue," and was not "one of the Commissioners" of the District of Columbia, but a nephew of Commissioner Daniel Carroll. The Carrolls were a numerous and confusing clan.

7 The plan reproduced on the *Journal's* cover is not the "lost L'Enfant Plan." It is a tattered copy of the so-called "Ellicott" or "Official" plan, engraved by Thackara and Vallance in Philadelphia in 1792. The "L'Enfant Plan," which was not "lost," but which had become almost indecipherable from age and from the varnish with which it had been covered to preserve it, was reproduced in 1887 by the Coast and Geodetic Survey from the original drawing that had been in the custody of the Office of Public Buildings and Grounds of the War Department. This drawing is the manuscript plan of the city executed by L'Enfant in 1791, and it is, of course, another "surviving" version of the L'Enfant plan prepared by his own hand, or under his supervision. This confusion in the plans makes the subsequent critique of them somewhat incomprehensible.

The plan on the cover of the *Journal* is, in fact, the fifth published plan of the city of Washington, having been preceded by the 1) small Thackara and

Vallance engraving, 2) the small Hill engraving, 3) the Tiebout engraving and 4) the larger Hill engraving that was produced from plans taken to Boston, upon Jefferson's orders, by Samuel Blodget. The first three small plans had been issued to accompany descriptions of the city that were published in magazines in Philadelphia, Boston and New York City, although the first of these was also issued in separate form.

L'Enfant did gather up his drawings "indignantly" when he was relieved of his duties, but not all of his drawings. He didn't "leave," because he was in Philadelphia when he was fired. Ellicott "took over," but he didn't have to draw L'Enfant's plan solely from "memory."

In his correspondence at the time the plan was being engraved, and in the various memorials L'Enfant later prepared to press his claims for reimbursement, he frequently alludes to the "manuscript, drawing notes of grounds level and measurements, etc, all were through some authority laid hold of and detained from me."

Poor L'Enfant, he suffered much in his own day and seems still fated to be misunderstood. We are not even sure what he looked like. One recent Washington history published a portrait of his father, a French court painter, identified as the son. The woodcut portrait reproduced in the *Journal* is noted, "Courtesy Library of Congress," and, although Caemmerer, in the "Life of Pierre Charles L'Enfant" states that "no portrait of L'Enfant exists," he reproduces the above woodcut, identified in the same manner. These were probably both taken from the plate prepared for P. Lee Phillips (then chief of the Division of Maps, Library of Congress), and which appears in his book "The Beginnings of Washington," published in 1917. Phillips calls it "the only portrait known" and states that it was enlarged from the one found in Charles Burr Todd's "The Story of Washington," (New York, 1889). Todd, in turn, credits some of his illustrations, including the one of L'Enfant, to Hutchins and Moore's "The National Capital, Past and Present," (Washington, 1885) with "illustrations by a Corps of artists under the supervision of Mr Sid H. Nealy." Where Mr Nealy got it, I have no idea, but it seems evident that its source might be investigated further before its authenticity can be accepted with any confidence.

FRANCIS D. LETHBRIDGE AIA
Washington, DC

EDITOR, *Journal of the AIA:*

Mr Lethbridge is to be commended for his extraordinary knowledge of the history of our Capital City, and his thoughtful critique of my article on Pierre L'Enfant.

Some of the faults he found were due to space limitations which prevented proper elaboration. In one case there was a printer's error. Certainly, I never intended to give the impression that L'Enfant was haphazard in his work. His own drawings and letters show that he was most meticulous.

There are several facets to history—factual, conjectural and interpretive. L'Enfant's work has been abundantly described in terms of known fact, but little discussed from an interpretive standpoint, particularly from the point of its value as one of history's most extraordinary exercises in large-scale arch-

(Continued on p 18)

itectural and urban design. It is this aspect which I tried to stress in my article.

I would add to Mr Lethbridge's bibliography the writings of Elbert Peets on this subject (see the *Town Planning Review*, the *Baltimore Sun*, and "Civic Art"), and offer my thanks for his astute and welcome corrections.

PAUL D. SPREIREGEN

High Praise for UD Series

EDITOR, *Journal of the AIA:*

Please convey my congratulations to Mr Matthew L. Rockwell, Director of Urban Programs, and to his committee in respect to the first of the series, "Historic Precepts in the Design of Cities."

Since this article, and I expect the succeeding articles, confirm my own endeavors in the course of Civic Design which I am giving here, I am writing to ask if I may have thirty copies of these articles as they appear, for distribution to my class. I imagine that some charge would be levied for this service, and would be glad to respond.*

I recollect your advising me of your intentions to carry out this series of articles, and I have been waiting patiently for the results. These promise to be of the highest merit.

PATRICK HORSBRUGH
Professor of Architecture
University of Nebraska
Lincoln, Neb

* Editor's Note: Reprints of this series are, and will be, available at no charge by simply directing requests to the Director of Urban Programs, The American Institute of Architects, 1735 New York Ave NW, Washington 6, DC.

EDITOR, *Journal of the AIA:*

Congratulations on your very excellent December issue of the *Journal*. I find that monthly your magazine gets more and more interesting and worthwhile to me and my students. With the new expanded concept of architecture now spreading that field over heavily into what we feel is landscape architecture, I find that many issues of the *Journal* are worthy of required reading for all landscape architects. In that respect, I would like very much to have fifty reprints of your recent article, "Historic Precedents in the Design of Cities," so that I may assign that article as required reading to all my classes while still retaining the reprints from year to year.

Keep up the good work and continue the drive for expanded services to the architect, but please let's have a little more consideration for those expanded services coming by means of collaborative effort rather than the one-man office.

CHARLES A. DE DEURWAERDER
Assistant Professor of
Landscape Architecture
Kansas State University
Manhattan, Kan

EDITOR, *Journal of the AIA:*

The *Journal* is the *best magazine* this profession has at this time. Hope you will keep it that way!

JAN REINER
St Petersburg, Fla

A·I·A
Journal

This year the Journal beats the drum for Miami, the 1963 Convention City. We present the first of two articles by Sam Krusé which will fill convention-goers in on the background of the Host City and tell them what to look for

Miami—Magic City

by **H. Samuel Krusé AIA**

General Chairman, Host Chapter Committee for 1963 AIA Convention

► Miami, the 1963 AIA Convention City, is not really a city at all. It's a phenomenon, a complex of rainbow-hued dwellings, bizarre estates, ornate hotels, Chicagoish office buildings, in twenty-six municipalities, emerging from mangrove swamps, jungles, coral rock and man-made sand bars, surrounded by water of incredible blue, softened by lush tropical foliage, and all of it etched in clear, bright sunlight against a sky of towering, everchanging cloud formations.

Miami is an Indian name meaning Big Water or Sweet Water and pronounced My-am-ee. You will hear it mispronounced My-am-uh, Mee-am-ee, and Mee-am-uh. People impressed by the unbridled vigor with which things are done in Miami call it the Magic City and the City of Eternal Youth. However you call it, it is truly a place of vitality, color and amazement.

Miami is Miami Beach on synthetic isles built on the mangrove-covered barrier which separates beautiful Biscayne Bay from the Atlantic; it is Miami, Miami Shores, Hialeah, Coral Gables and a score of small municipalities on the Florida mainland connected to Miami Beach by six causeways across the Bay; it is also Key Biscayne with its own umbilical cord to the mainland, and Homestead, the heart of great winter farms.

Miami started on the shores of a river of the same name, whose headwaters are in the Everglades and which winds its way through a cleft in the oolite limestone ridge that separates the waters of the Everglades from the Atlantic, to empty into Biscayne Bay. The ridge is fertile and good for tropical trees and growth, making a cool and fragrant jungle refuge from the intense rays of a constant sun and a haven for wildlife.

Long before the time of Columbus the site attracted settlers. The Tequesta Indians came first, building a city of thatched huts on platforms



Vizcaya, Deering estate

constructed over the water on piling. Their tools and weapons were made of shells and their pottery scratched in interesting designs. Lady Tequestas wore Spanish moss skirts; the men, plaited palmetto breechcloths fitted with moss bustles to provide greater comfort for sitting. In 1567 a Jesuit Mission of Tequesta, consisting of a blockhouse, thirty Spanish soldiers and a lay brother, became the first white man's settlement and the first Miami dream to fail.

Because of its climate, natural advantages and the lure of cool fresh water, the site was not only favored by the Indians, but also the Spaniards who coveted the rich land but could not hold it; by discoverers, pirates and adventurers sailing the seas. Early settlers were called Conchs and Crackers, both of English origin. Conchs were people of the sea and came from the Bahamas by boats. Crackers were land people (originally cowboys who were exceptionally dextrous at cracking long cracking whips, hence their name) who came south overland from the Colonies, some at the time of the American Revolution. Temporary evacuation of all white settlers was compelled by the ravages of the Seminole Wars, but the lure brought them back, even before a truce was certain.

Among the earlier settlers were two Cleveland merchants, William Brickell and his friend Ephraim Sturtevant. Brickell established a trading post on the south bank of Brickell Point, where calico, sugar and alarm clocks were traded for alligators, deer and otter skins, egret plumes, and coontie for starch-making. In the 1870's most of the trading was with a band of mixed Creeks, called Seminoles, who lived in the Everglades in thatched huts called chickees and poled their way to Brickell Point in cypress dugouts. Trading flourished and Brickell grew in wealth and influence. He built a wooden mansion on the Point, with great white columns and wide verandas surrounded by live oaks, ironwood, gumbo limbo and frangipani.

On Brickell's periodic buying trips to Staten Island for supplies for his trading post he spoke glowingly of the life in the Biscayne Bay area.

Ralph Munroe, a Staten Island boat designer and builder, fell in love with the Bay before he saw it, so it was no surprise when his first visit to see the blue-green waters made him a permanent resident.

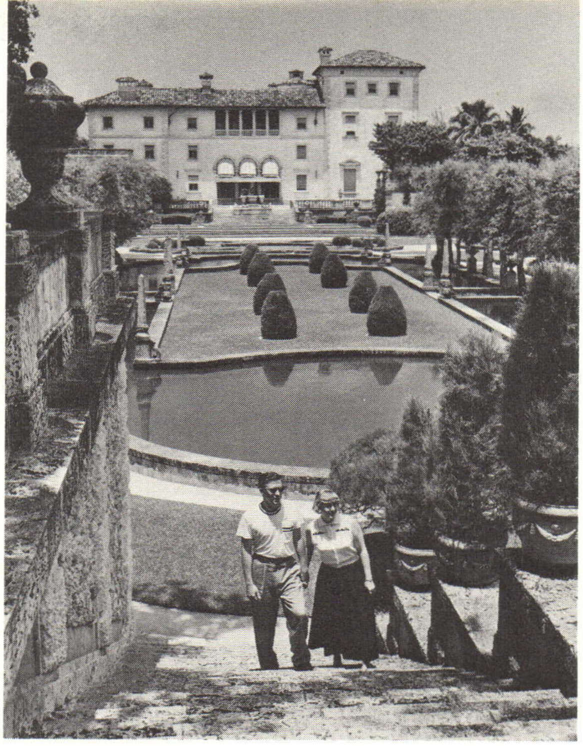
The Peacock family had built, in the hammock land called Coconut Grove six miles south of the river on the Bay, a two-story, driftwood affair called Peacock Inn from whose broad verandah one could sit and see Cape Florida Lighthouse. It was here that Ralph Munroe settled to design and build his famous sailing boats, and to study and write about the plant life, fish and other natural features of the south Florida area. A writer of boys' adventure stories named Kirk Munroe, but not related to Ralph, also settled in the Grove about the same time and became a good friend of Ralph's. The two soon became the Grove's most prominent citizens and did much to shape the direction of the Grove's development.

One day over a pot of coffee on the porch at Peacock Inn, the two Munroes decided that a yacht club should be formed where all the visiting yachtsmen from the north and Key West could meet. Before the pot of coffee was consumed, the Biscayne Bay Yacht Club and its well-known "25-N" pennant (for 25 north latitude) was born. Kirk Munroe appointed Ralph first Commodore and Ralph appointed Kirk secretary. From that day on Ralph was Commodore Munroe. On February 19, 1887, the club held its first Washington's Day Regatta and chowder-party.

The ladies of the Grove were bent on cultural activities in which the Commodore played a vital role. The Pine Needle Club became the first literary society of the Bay area and later became the Coconut Grove Library when Mrs Andrew Carnegie stepped off her yacht to look at the Grove and stumbled into a meeting of the Pine Needle. A women's club was founded and a church started. The Commodore grandly gave land for the library, the club and the church. It wasn't long before the Grove became the place for the notable intellectuals to go for discussion events, complete with lantern slides, many to become regular winter residents and some to become permanent residents.

Commodore Munroe continued to be the Grove's leading citizen well into the twentieth century and he, along with Alexander Graham Bell's son-in-law, Dr David Fairchild, was primarily responsible for the non-tourist type development of the Grove and the preservation of its natural beauty.

Sturtevant became the citizen of the North Bank. He served as County Judge and served in the legislature for four years before his death. His daughter, Julia S. Tuttle, recently widowed,



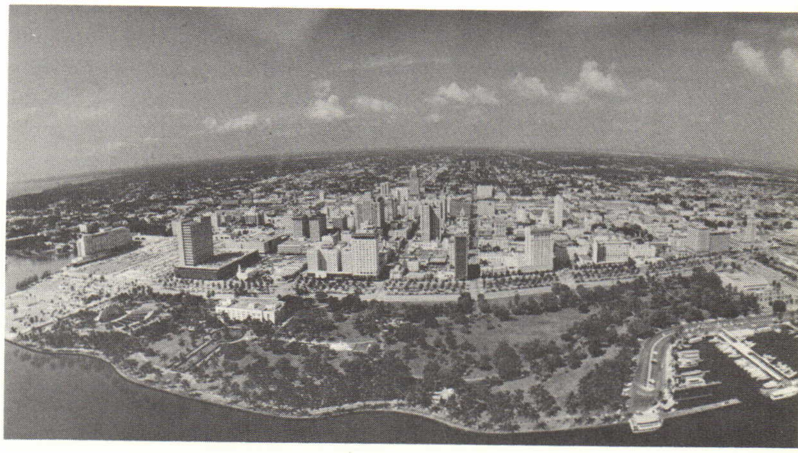
Photos: Miami-Metro News Bureau

Formal gardens, Vizcaya



Miami abuilding during the 1920's—peak of the boom

Miami from the Bayfront—today



inherited her father's north bank property and his keen interest in the Bay area. She began purchasing property on both sides of the river and by exploiting Cleveland wealth and influence and gaining Brickell cooperation, proceeded to transform the area into a town.

A severe freeze in 1894-95 destroyed the citrus groves of central Florida and gave the alert Julia Tuttle a golden opportunity. She sent Henry Flagler, the railroad magnate, whose earnings were threatened by the freeze, a bouquet of orange blossoms from the Biscayne Bay area which was untouched by frost. The impressed Flagler visited Mrs Tuttle and a deal was made. Tuttle and Brickell donated real estate to Flagler, who in return extended his railroad to Miami from its West Palm Beach terminal, installed a waterworks, and financed other civic improvements including the Royal Palm, a resort hotel across the river from Brickell Point. At this time Miami had a population of 1,500 and consisted of a dozen sand trails hacked through the palmetto scrub, with a business street lined with pine shacks and tents. This was 1896.

The advent of the railroad provided easy access to the otherwise isolated Bay region and brought on a group of imaginative and aggressive investors, tourists and settlers.

The Everglades drainage project redeemed productive land and stimulated the growth of winter farming.

On the stretch of sand and mangrove, loosely called "the beach," between the ocean and the Bay there were no developments in 1896. Osburn and Field tried an unsuccessful coconut plantation and John S. Collins tried the avocado raising business, acquiring some 1,670 acres of land, five miles along the ocean and one mile along the Bay. Collins proposed to build a bridge from his plantation across the Bay to the mainland, impatient with the uncertain ferry. With the family fortune as stake and his son-in-law, T. J. Pancoast (at family insistence), to check on things, he plunged into the task of erecting a plank causeway across the water.

The bridge was started and $100,000 later the pilings were in the Bay but the money exhausted. It became apparent to a few that a bridge would open the Collins' acreage for real estate and tourists, who were now coming to Miami in respectable and profitable numbers. Carl Graham Fisher, the carbide gas, automobile headlight magnate, was one of the few who realized the potentialities and lent Collins the money to complete the bridge.

With Fisher's involvement in Miami development, a new era was initiated. Except for his Indianapolis Speedway, Fisher devoted all his considerable resources and energy to building a city on the ocean end of the rattle-board Collins Bridge. He lent money, in exchange for land and interest, to the Lummus brothers, Miami bankers, to complete the development of their 605 acres of swamp on the south end of the Beach. Hundreds of workmen were used to clear land of mangrove growth, rattlesnakes by the dozen, raccoons by the hundreds and countless rats. Advertisements were published for cats and they were purchased by the bag. The cats cleared the rats. Nobody seems to know what happened to the cats after the clearing was completed.

Six million cubic yards of fill were dredged from the Bay to form level desert islands of white sand and a motorboat racecourse in the Bay. The work was slow and costly. Instead of the thousands of dollars anticipated, millions were spent for creating the land alone, sand-sucking at one time costing as much as $50,000 a day.

Fisher's Alton Beach was developed concurrently with the Lummus development named Ocean Beach. Collins called his development Miami Beach Improvement Company. The three developments were thrown together to compose Miami Beach.

When the dredging was complete only Osburn and Field coconuts could be seen against the blue sky, for no vegetation was visible on the expanse of white sand. Lest the trade winds blow away the precious fill, planting was undertaken with the same enthusiasm and lavishness characteristic of the development. Thousands of yards of Everglades earth were barged to the man-made land. Hundreds of Negro men, women and children labored in long lines planting grass, sprig by sprig, and hibiscus, oleander and bougainvillea in its many hues. In a few months the desert sands became a tropical paradise.

Even before the land was made, Fisher constructed his home in the new city. He built the Lincoln Hotel and cottages for his staff and head craftsmen. All types of construction equipment and material for building a city rattled across the wooden Collins Bridge to the Beach. A narrow-gauge railway was laid to handle the material, also to provide free rides for VIP's observing the birth of the city. Elephants were used to help clear the land for Lincoln Road and to give newsworthy interest to the project. A casino, flying the Stars and Stripes at its center mast, was built by Sheriff Hardie near the windbreak of Australian pines Collins had planted. A city was created where there was no land before. Now one could purchase city real estate at fabulous prices and it became fashionable to boast about the high price paid for land kissed by the tradewinds and bathed in the sun.

The city building fever was not confined to the



Man-made islands blown away with the trade winds. Planting was needed, planting was done

Beach. Coral Gables came into existence as if by magic. George Merrick was a law student in New York when his father died leaving him a 1,100-acre grove in the pinelands on which stood a gabled house constructed of native stone and called Coral Gables. He dreamed of building a "Master Suburb," reading A. E. Housman and sketching plans in preparation for the fulfillment of it. Unlike the Beach developers, Merrick's dream was planned and methodically detailed, but like his Beach contemporaries, no obstacle or expense was allowed to stand in the way of his dream. Topnotch architects, designers and landscape artists designed his city with wide, landscaped boulevards, fountains and gateways and a Pan American University. When all plans were complete, he paid $3,000,000 in twelve months in advertising his development and hired William Jennings Bryan as a real estate salesman. His Coral Gables caused a demand for building material so great that an embargo was established on non-perishable, Florida-bound freight. Ships were unable to enter the congested harbor, some ships compelled to lay at anchor for weeks awaiting their turn to unload. The Seaboard Air Line Railway built an extension into Miami, but unfortunately, too late to share in the prosperity.

Glenn Curtiss, famous airman and sportsman, and Missouri ranchman James Bright also had the fever and founded Hialeah and Miami Springs. Beautiful Hialeah Park race track was built, when pari mutuel wagering was legalized, and remains to this day the finest of parks.

There were other men who spent fortunes in building in Miami. These were the estate builders. James Deering, whose fortune came from the International Harvester Company, was the champion of this group. Having come to Miami for his health, he chose as his therapy in the sun, the production of a Venetian palazzo complete with formal gardens. On a 106-acre tract on the Bay in Brickell's hammock, he spent $8,000,000 in five years to build an estate behind pink stucco walls festooned with bougainvillea. It was stocked with art treasures gleaned from Europe and paintings by Sargent and Copley. He called it Vizcaya and a resplendent orgy of royal architecture it was—grand and breathtaking.

Real estate values during the late 'twenties reflect the fever with which Greater Miami grew in its formative years. The *Miami Herald* in 1925 issued a 504-page edition and other newspapers throughout the country carried news stories and special sections on Miami developments, telling the story of the fabulous real estate values. Land in the flatlands eight miles from the post office sold for $25,000 an acre; property downtown sold at $20,000 a front foot and an owner refused $6,000,000 for a corner on Flagler Street for which, six years previously, he paid $350,000. More than $100,000,000 was spent on construction during the peak year.

These were the wild beginnings of Greater Miami. The Spanish-American War, World Wars I and II, and the Depression hurt it and slowed its pace, but only temporarily. In sixty-six years, hardly a man's lifetime, Miami was transformed from a sleepy village of 1,500 to a growing, bustling metropolis of over 1,000,000 which entertains some 4,000,000 visitors annually. ◀

(More on the Magic City next month)

Notes on a French Horn II

by **Henry S. Churchill FAIA**

"These are . . . the last notes to be blown on this French horn," as we sadly noted in our February issue—for Henry died just before Christmas, busy up to the time of his heart attack, and still planning many activities

► France has the most dangerous roads in Europe and the highest highway casualty and death-rate in the world—higher even than that of California. On the other hand it has the best road system, as a whole, of any country in Europe, and some of the most lovely and quiet byways to be found anywhere. He who travels *Routes Nationale* numbers seven or ten is a suicide-prone fool; who takes his time on the minor routes and departmental roads will be rewarded not only with longer life but with incidental visions of delight. These are the roads that follow the valleys of tranquil streams, that climb out of those valleys to the next over a ridge with long views, that parallel a canal lined with poplars and still-water fishermen. Go slow through the villages, because the dogs are not as alert as those on the *grandes routes* and people are more careless about their chickens. Besides, if you go too fast you may miss a church or little château hidden just off the road you travel.

St Thibault-en-Auxois is one such. I stumbled on it, which was luck against ignorance, for I should have known of it. The town is a mere hamlet at a crossroads in a valley, of no importance and not even mentioned in the Michelin. The church, or what is left of it, can be seen a little way off, but unless you look quickly it is gone as you go around the dangerous blind corner in the village. What is this strange, tall, apparently hexagonal thing of shimmering glass doing out here all by itself? Perhaps it is worth going back for—and it is. The apse is all that is left of St Thibault, a thirteenth-century apse that is almost as light and clear as St Urbain of Troyes. There is a secondary chapel, and the ruins of a cloister. Hardly worth a detour, unless one's taste for Gothic is as one's taste for food and wine. St Thibault is not "important," but it is exquisite.

These are the virtues of the byways of France. Nor are they confined to the Gothic. Just outside of Fontenay-le-Comte in the Vendée we arrived, not intentionally, at the little renaissance Château de Terre Neuve. They tan leather in and around Fontenay, and the place stank, still it seemed worthwhile to visit the château which we glimpsed on the way into the town, for the French have not yet discovered exclusive zoning. It is hardly more than a manor house. It is L-shaped, with the usual graveled court and a small but anciently regular alley of trees leading briefly to a niche with one of those nondescript statues that are so garden-like in the mellifluence of their contours. The building itself is strictly formal, strictly provincial, with terra cotta pilasters and entablature, and, between the second floor windows, in niches, terra cotta figures of the Muses in swirling rococo robes. It was all so light, so pleasant, and so unpretentious that it would have been good, one felt sure, to know the owners and chat for a while. They would be depressed gentry of quality, but not snobbish or rude, although disliking these visitors to their house. For it was obvious that this place was owned and occupied by descendants, not by newcomers. Their roots and their income were in Fontenay and its tanneries.

Quite different from Fontenay-le-Compte and its château is the ancient Abbey of Fontenay, near Montbard in Burgundy, on the other side of France. Founded by Bernard himself it is situated in a very quiet little valley by a brook, with copious springs. This is a gentle country of wooded low hills and not many villages.

To get to Fontenay from Montbard one leaves the main road for a secondary, and the secondary for a lane, just as one does when looking for the great Castle of Bonaguil. But to get to the Abbey the lane crosses a brook and dips down into a hollow, whereas Bonaguil suddenly rises up ahead of you, piercing the sky from its great promontory of rock. There is no particular reason to think of them together except that they are so different at the end of such similar ways.

Each is an illusory example of its own way. Illusory because the physical reality they put

before our eyes cannot be matched by any real comprehension of the non-physical realities they were built for. Both are paradoxes, joints in the history of the struggle between faith and reason, between church, state, people. At the end of a lane they symbolize resistance to the changes of new technics of logic, of warfare, of economic power. To follow these changes from the main road to the quiet lane is to learn much: the monks of Fontenay and the cloistered soldiers of Bonaguil were the same breed of men, as Bernard and the somewhat mad Sieur de Roquefeuil certainly were not. Fontenay was built to uphold the faith of the past which Bernard so bitterly fought for against the pressing reason of the future. Bonaguil was built to resist the advance of the new forces of the Central State, and is the first medieval castle designed against gunpowder and so it is the last medieval castle. The great traffic on the main road passed both of them by, leaving ruins.

Such digressions as these are in the nature of places with long pasts. With our ease of travel today from Fontenay and back to Fontenay, from Vendée to Burgundy and back by way of Périgord, we forget how far apart they once were, how separate. Not only was the Vendée something different from distant Burgundy, it was different from neighboring Brittany with its attachments to the sea and sea-stories, Druids and Tristan. Different too from neighboring Poitevin and the Charente, which though on the sea had no sea-stories.

These are indescribable differences, like those of English counties and districts, the Cotswolds, the Downs, all the rest that make up the lore and literature that we love. These differences are perceptible but cannot be limited, they can hardly be defined, certainly only vaguely appreciated by the mere visitor—even if he is from the same country. But in France the literature is more metropolitan, the writers are less "provincial": Paris and the Court were magnets, and the writers were assimilated by them, at least until the advent of the modern novel. The great exception is Rabelais who never became a sophisticate and whose lore is not nostalgic.

Nevertheless we are back in Niort now, a place unsung. It was founded in the early years of the Roman invasions of Gaul, it was destroyed by the Norsemen and rebuilt and fought over during the Huguenot wars. It is not much to boast about, a town built around a gigantic square, bare and uninteresting. It does not, in fact, boast. It has no publicity and no pretty postcards of picturesque bridges over the river. It is there, solid, as it has seemingly always been and will be, because it is a needed market place at a point of interchange between the coast towns and the Poitevin marshes and the cities that controlled the north-south routes—Saumur on the Loire, Poitiers, Angoulême. It was here that Napoleon spent his last day before leaving France for St Helena.

One does not go to Niort for the sake of Niort, but because it is the best place from which to visit the Poitevin marshes.

Anciently these were a vast and uninhabited swamp, created by the meanderings of the Deux-Sevres ridged off from a clear flow to the sea. Bit by bit they were redeemed, until from the time of Richelieu on, they have become a rich marshland penetrated by canals. There are few roads, almost all traffic is by flat-bottomed boats poled through the shallow, listless waters. For miles no sound of a motorcar, no footsteps: birds, occasionally cattle noises, leaves stirring. Many varieties of water-flowers, dragonflies; no fish. This goes on for miles, no sounds, languid, liquid. No, it is not like Xochimilco, although it may be what Xochimilco once upon a time was like. The Vendeans are tough and make their living in these green pastures, but it is not an easy living although it is green, and they do not sing as they pole the tourist around. But the man who took us quoted Racine at considerable length in making some point or other and he knew all the birds and the water-flowers and he was enchanted that we spoke even such French as we spoke.

Coastwise from Niort is the little resort town of Les Sables d'Olonne, which when I first saw it thirty years or more ago was a fisherman's village where the sailboats had beautiful colored sails and were drawn up nightly on the beach or up to the quay in the little harbor. It is now a popular middle-price summer resort, and the road along the beach is lined with new small hotels and restaurants, and the beach is full of children busily digging holes in the sand. It is hard to spoil a sea-beach, even with great effort—witness Atlantic City—but it was a bit sad to see how unpleasant today's architecture can be under the fierce glare of the ocean sky. However, I was not taken by surprise; I had seen today's architecture before. Leaving Nantes we had gone to see Cor-

bu's second Unité d'Habitation at Rezè. Rezè is an industrial suburb of Nantes at the tidewater of the Loire, cut through by dusty, disagreeable highways. The Unité is off to one side, in a confused little residential patch of dirty streets. It is unpleasant. It rises huge and coarse from an ill-kempt, frowsy plot of land. The pipes and ducts of the thing hang down into the open area of the "pilotis" like the guts of a disemboweled horse in a bull-ring, the concrete is spalling, the thing is dirty and full of rust streaks. From a distance it is ungainly and sombre, even in those not very cheerful surroundings. It is even worse than Marseille. If it were not by Corbu, it would be ignored. Such is the power of the Name.

France is full of high-rise imitation Corbu and four-story walk-ups with balconies and portholes. The former are almost always hideous, the latter commonplace but often quite pleasant. The French have had the good sense, so far, to keep the high-rise out of the old centers, using them mostly in the new industrial suburbs. Some of these complexes are enormous, but none that I have seen have either beauty or dignity or even distinction. Often they are offensive, as when the synthetic blue and green and pink roofs of the low buildings clash with the beautiful old corrugated clay-tile that is native to the area. Or when, as at Avignon for instance, the distant high-rise slab competes with the outlines of the Alpilles down the valley.

There is no use complaining about this. These are today's technics and materials, today's scale.

But one does not have to seek out the unpleasant, there are ways of escapism, and why should we not escape, when we have so much ugliness of our own at home? It was nicer to turn my back on the newness of the Bay of Biscay and go back to Angoulême by way of Aulnay-en-Saintonge, one of the loveliest of the minor twelfth-century churches in the Charente. Those who do not like Romanesque are like people who do not like early music or Chaucer and such-like, and they are of course entitled to their disability. They have compensations, things they do like. I know how they feel when I start to talk about things like Aulnay, because I know how I feel when they start to talk about things like Wedgwood or white mice with red eyes.

Anyway, Aulnay sits in a low-walled piece of land that is studded with gravestones, cypresses, some grass and gravel, weeds, rusty little iron crosses. A main road passes in front of the cemetery, and there is a filling station within view, and it seems forlorn. It isn't, for the Romanesque has dignity, and nothing can suppress that dignity. It is a quality altogether different from the quality of the Gothic, which is transcendent.

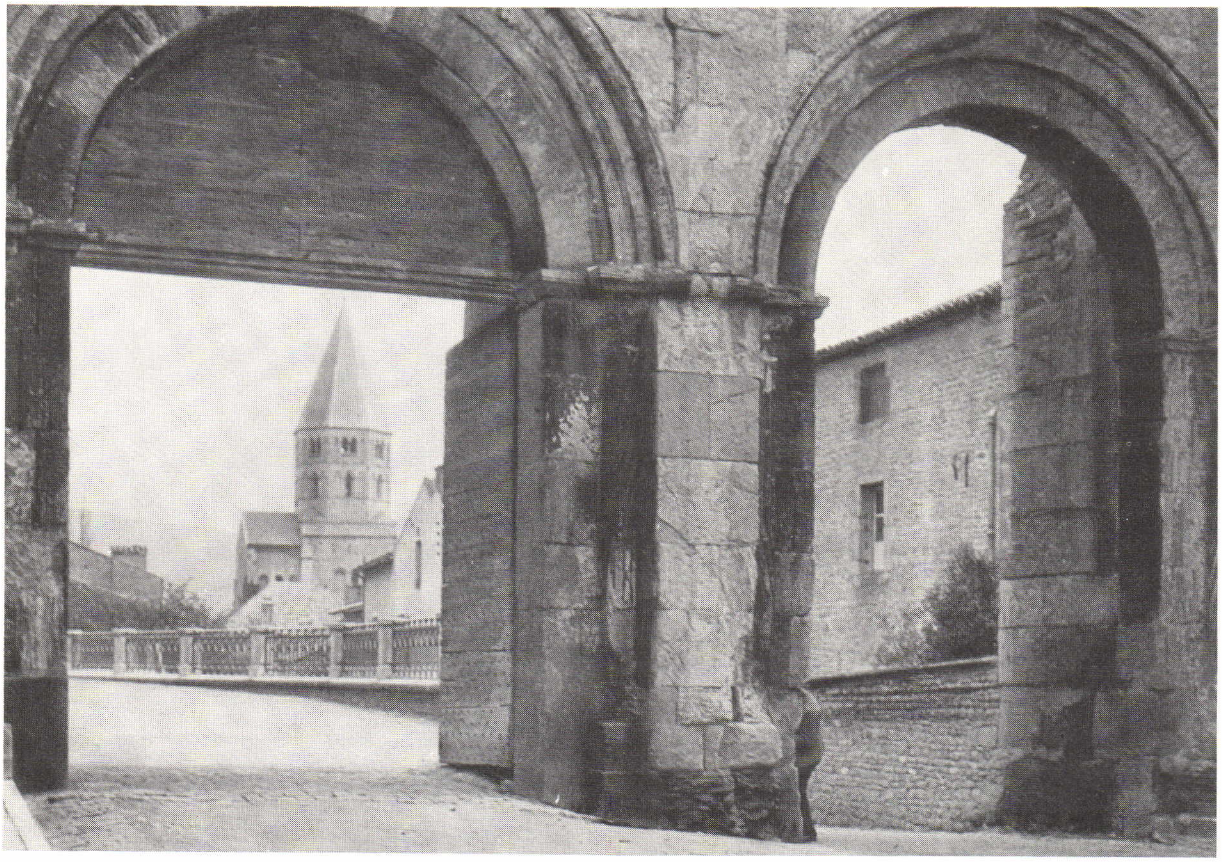
It may be that this is because in the Romanesque the structural problem does not obtrude. The Gothic, wall-less, soaring, held up by flying buttresses, always seems a minor miracle, as indeed it is. Churches like Aulnay and Moissac, St Philibert, St Savin-sur-Gartemps and the rest are not minor miracles, they are firm and affirmative. One does not question their structure nor that they were built by humble men of faith. They do not rise to great heights of architectural oratory, they have dignity, the dignity of a simple statement simply stated.

This sort of comment can be attacked as subjective attribution of anthropomorphic concepts to inanimate objects. And so it is. It is one method of trying to convey a subjective reaction to other people, of expressing an experience. The perceived differences between things is of necessity subjective; necessarily felt differences are also subjective. While perhaps the perceived differences can be described in terms of the object (by metes and bounds, so to say), the felt difference —dependent on the perceived—cannot be described except in terms of a "subjective" analogy that is also felt.

So I stand on my dignity of the Romanesque, and on its humble dignity, too. There may have been a prideful Romanesque, perhaps Cluny was an example; it is hard to say now, so little is left. Bernard thought the Cluniac churches were ostentatious and prideful, but Bernard was a proud man who was afraid of his pride. If he chose to attack Cluny he also chose to let Abbot Suger of St Denis alone. Suger too was a proud man, but proud of it. The times were against Bernard; Suger and the Gothic won in the end.

The Charente, the French sweep along the Bay of Biscay, between the Loire and the Gironde, is full of Romanesque churches, not all as delightful as Aulnay, to be sure, or St André-de-Cubzac where the apse sticks out into the highway like a badly parked car. More often there is a single interesting feature, a clustering of chapels at the apse, a sculptured tympanum, a bit of a cloister. The little towns they inhabit are also old and unostentatious, even though some, like Cognac, are known the world over. No one knows just why Cognac makes better brandy than other places—after all, the stuff is a distillate and only ages properly, like whisky, in wood. The "fine," like the Romanesque, has dignity.

Which naturally leads to Bordeaux and the mysteries of wine. I am not referring to the nonsensical "mystique" of wine about which too much is written. Wine is for drinking. The mystery is why do wines, made from grapes grown within less than a mile of each other taste so differently? For they do, and these differences



Ruins of the Great Abbey Church at Cluny. Photo courtesy of "Picturesque France"

are even more sharply marked on the Côte d'Or than in the Bordeaux region, for the great vignobles of Burgundy are far smaller. The Bordeaux are wonderful wines of very ancient lineage. There is a Château d'Ausone reputedly on the site of the home of Ausonius, a native of Bordeaux, tutor to the Emperor Gratian who retired him as Consul to his native province. He lived the greater part of the fourth century, a sensitive if not a great poet, a man of discernment, a drinker of wine. He lived to be eighty-five, a very great age, due undoubtedly to the quality of the stuff he drank. One likes to think that this is the oldest known continually cultivated vineyard. Its quality is still unsurpassed. There are those, mostly Irish, who think Haut Brion is better. Everyone is entitled to his own opinion.

The battle between Burgundy and Bordeaux goes on. The Bordelais point to Montaigne and Montesquiou and sneer at the heavy-headed Dukes of Burgundy. The Burgundians reply, Claret gives you gout. Authorities remain impartial. Rabelais does not commit himself. Only the cultists distinguish between Burgundy for goose and Bordeaux for goose-liver. (If it's Strasbourg liver, the wine must be Alsatian.) In the goose country, Quercy and thereabouts, you drink what you can get, and are grateful. Goose used to be a Christmas bird—why have we forsaken it for the bland turkey? Is it because a nation of milk and liquor drinkers isn't able to tell the difference? Turkey gobblers are for gobblers. Goose needs leisure and an afternoon nap. But I have never understood why a nation that adores baked beans never took up with *cassoulet*. It is probably too late now, since cholesterol has been discovered.

These are probably the last notes to be blown on this French horn, because I have a feeling that they are becoming nostalgic rather than a revealing of the pervasive quality of architecture, which is what they were meant to be. I make no apology for the accent on France, it just happens I like the place. Any place else would provide the same enrapture if it were sought. Notes on an Irish harp or an English drum or an Italian fiddle . . .

All architecture is what you do when you look
  upon it;

Did you think it was the white or gray stone?
  or the lines of the arches and cornices?

All music is what awakens from you when you
  are reminded by the instruments,

It is not the violins and the cornets . . . it is not
  the oboe nor the beating drums . . . nor the
  notes of the baritone singer singing his sweet
  romanza . . . nor those of the men's chorus,
  nor those of the women's chorus,

It is nearer and farther than they.

WALT WHITMAN



Dr Gebhard, formerly Director of the Roswell Museum and Art Center at Roswell, NM, recently spent a year as Visiting Fulbright Professor in the School of Architecture at Istanbul Technical University. While there, his interest was aroused in the local wooden houses of the eighteenth and nineteenth centuries. This article was written for the Journal *as a brief introduction to the subject. The author is now Director of the Art Gallery at the University of California, Santa Barbara. Photos by Halit Gokberk except where otherwise noted*

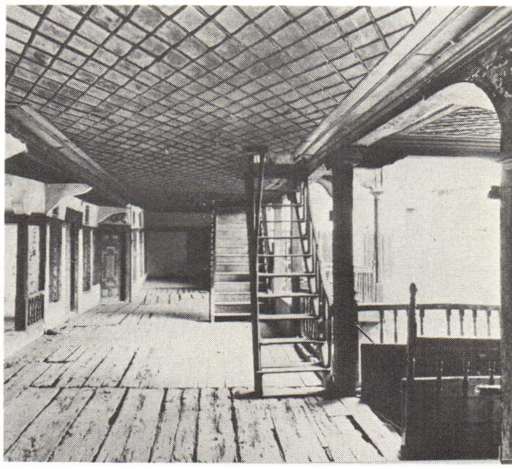
THE TRADITIONAL WOOD HOUSES

by **David Gebhard**

► Among the wealth of historic buildings encountered in the Near Eastern countries, certainly among the most intriguing are the traditional wood houses of Turkey. As many an American visitor has remarked, there is often more than a surface similarity between the wooden clapboard houses of Istanbul and the turn-of-the-century house of the San Francisco Bay area. But the resemblance goes even further, for in many ways these earlier Turkish houses anticipated our contemporary idea of human scale and its relation to interior space, our exterior treatment of the structure as a series of lightly articulated volumes and finally our contemporary concern with providing a close relationship between indoor and outdoor living areas. That Americans as well as Europeans have so long remained unaware of this architecture is decidedly unfortunate, for these buildings reveal a depth of historical experience which we may well profit from.

Within the boundaries of the former Turkish Ottoman Empire, stretching at its height from Persia and North Africa to the gates of Vienna, were a wide variety of domestic buildings reflecting Mediterranean, Near Eastern, and Eastern European traditions. A majority of the houses situated on the Aegean Coast of Turkey continued



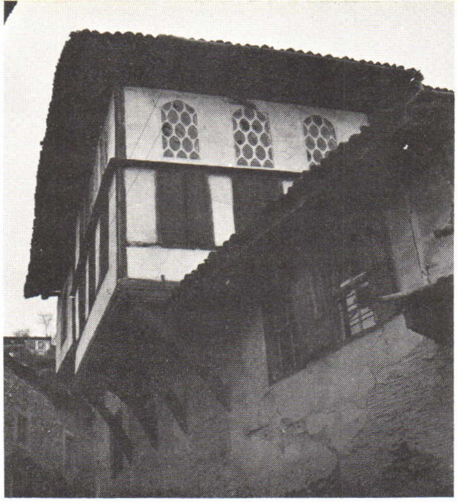


Three views of eighteenth-century house in Birgi: courtyard, main floor from street and porch area used for living

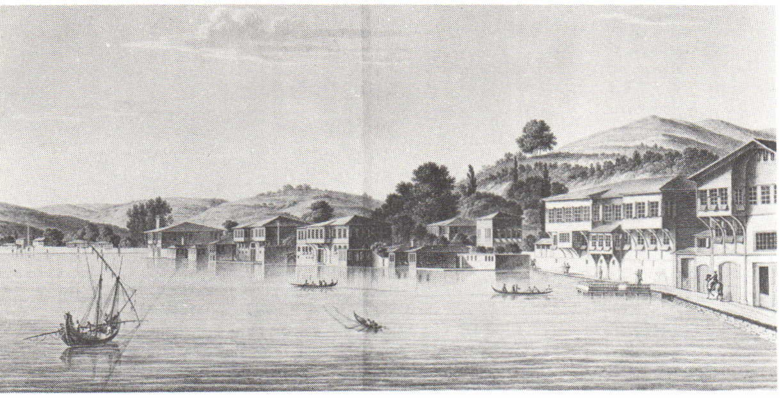
OF TURKEY

the Greek tradition of being heavily built of stone, while in much of central Anatolia one encounters low flat-roofed adobe houses reminiscent of the native architecture of northern Mexico and southwestern United States. Still further east, in the region of the ancient city of Kayseri, are the impressive houses of finely cut stone which are an outgrowth and blending of Armenian, Syrian and Persian concepts. But certainly the most fascinating examples are the wood-framed houses found in the larger villages and cities of western Turkey: in Bursa, Yenishehir, Izmit and Istanbul, as well as in the cities situated along the Black Sea. Our knowledge of the historical development of these houses is still very limited, but it would appear that the earliest of them were built in European Turkey, on the shores of the Bosphorus and the Sea of Marmara and along the coastline of the Black Sea. Later, during the eighteenth and nineteenth centuries, similar houses came to be built throughout much of the Ottoman Empire: excellent examples occurring in Ankara, Konya, Edirne and elsewhere.

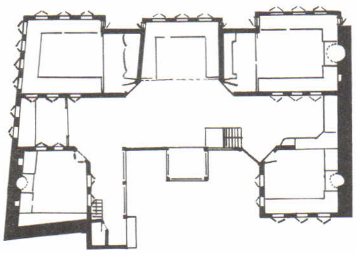
The structure of these houses is a heavy timbered wood frame, resembling in many ways the typical medieval houses of Europe. Sometimes, as with the medieval European examples, the frame itself was left exposed and the spaces between filled with brick which was subsequently plastered. The usual solution, however, was to



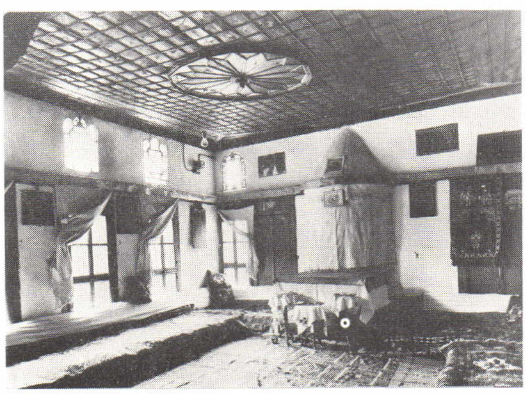
House in Tire, Street view
of one of four main living areas



Wooden houses on the Bosporus at the turn
of the eighteenth century. Drawings by
Antoine Ignace Melling in "Voyage Pittoresque
Constantinople et des Rives du Bosphere"



Plan of house in Birgi.
Note small living alcoves
off extensive porch



Main living area with raised benches
and fireplace of late eighteenth- or early
nineteenth-century house in Goynuk

cover the wood frame either with lath and plaster or with wooden clapboard.

In plan and structure these wood-framed clapboard and stucco houses were derived from the earlier stone, brick and wood Byzantine houses, although, as one would expect, the final form which the Ottoman Turks developed was tinged with occasional Syrian and Persian forms. In subsequent years other influences were absorbed, especially during the late eighteenth and early nineteenth centuries when Europe began to exert a widespread influence on many aspects of Turkish life. At first the European ideas were obtained from French and Italian models but in the late nineteenth century, they were derived from Austria, England and surprisingly even from America. Houses reflecting the English and American Queen Anne and Gothic revival styles with their flamboyant and playful use of sawed scrollwork and turned spindles appeared throughout Turkey during the decades of the 1890's and the 1900's. Always though, the details of these revivals were applied as a superficial frosting to the traditional form and plan. Even though many influences were absorbed in these Turkish houses, the final form resulted in a new and original style.

Two-Story Plans

The plans of these wooden houses reveal a wide variation, but whether in the country or the city they are generally two stories in height and are oriented inward toward a courtyard situated to the side or to the rear of the building. The main living, dining and sleeping rooms are situated on the second floor, access to which is attained by a staircase placed in the two-story open porch which faces the interior courtyard. The ground level contains a few secondary living quarters, the kitchen, servants' quarters, toilet and rooms for storage and animals. The characteristic plans of the second or main floors are in the form of a T or an L. Another plan, especially prevalent in the late nineteenth-century houses, consists of a central living hall running through the house, off which are located the secondary rooms.

In the T-plan houses, the stem is occupied by a living alcove and the top of the T is an open or semi-open porch which is utilized as an outdoor living area. The spaces to each side of the stem compose the main enclosed living space of the house. In the smaller houses these rooms are multipurpose, being used for living, dining and sleeping. In the large houses, these functions are divided into separate rooms. Originally, one of these rooms or groups of rooms were used by the women of the house and a smaller but separate suite was reserved for the men.

The enclosed rooms of the house are square

to rectangular and are usually entered through a small very low-ceilinged vestibule. Light enters through rows of windows often situated in a single rectangular bay which projects out over the street. In many cases the whole of the second floor was placed at an angle to the ground level, so that it would better be able to catch the sunlight and a view up the narrow streets, or in cities such as Istanbul, an outlook over the sea.

Cubelike Boxes

Both inside and out these houses express a rather pure volumetric concept of space. Mass and bulk, and in fact any feeling of a scuptural architectural quality, were denied entirely. Instead the buildings were forcefully and dramatically declared as a series of separate, very distinct, cubelike boxes. In most instances the ground floor comprises a single box and above this is a sequence of individual cubes or rectangles, visually divided from the floor below by being cantilevered out over the lower walls and separated from one another by the recession and projection of their surfaces. The roof, too, was never fully integrated into the lower section of the building. It was generally treated as a loose widely overhanging umbrella. The underlying thinness of the wood-framed walls, whether of clapboard or stucco, together with the tenuous sticklike quality of the open porches, suggests something akin to a contemporary constructionist approach to design. The treatment of the exterior in terms of distinct independent volumes closely mirrors the actual space divisions of the interior.

The internal space of the house was treated as a group of self-contained units. The open flowing movement of space encountered in the wide porches and semi-enclosed alcoves is in decided opposition to the rigidly defined space of each of the individual rooms. The most telling single element of the interior space is the sense of scale in relation to the human figure. The apparent height of the rooms was lowered by dividing the walls into two basic horizontal bands. These bands are separated by a shelf or projecting wood molding which defines the tops of the doors, cupboards and lower windows and which form the bottom molding of the upper windows. In a typical room the windows are always doubled; the upper units contain colored or semi-translucent glass set in a wide stucco frame, while the lower row of windows are of the casement type. Thus the upper space of these rooms is flooded with a soft diffused light while the lower section can be fully opened up to the out-of-doors.

Provision for seating and sleeping in the form of L- or U-shaped benches placed adjacent to the walls is an integral part of each room. Numerous rugs and cushions were placed on these benches and against the walls thus forming a continuous low divan. Since the room was visually experienced from a seated position on the divan, one can readily understand why its height was reduced as much as possible. The visual lowness of the rooms was accomplished by the horizontal zoning of the wall surfaces, by the character of the bench itself, and also by the intricate wood and painted mosaic pattern of the ceiling which presses toward the floor. Other devices used to establish the intimate scale were the patterns of numerous small closets and storage shelves, their doors and surrounding wood moldings; by the low and small proportions of the stucco fireplaces; and by the small-scaled decorative painting which often covered parts of the walls, doors and ceilings.

The denial of mass through the thin nature of the wall surface was enhanced by employing two sets of window frames, one of which is flush with the interior, the other with the exterior; by decorative wall paintings of a completely two-dimensional character; by the shallow-relief inlaid wood panels of the ceiling; and by the cut-out feeling conveyed in openings of recessed cupboards, doors and the occasional arches of the porches. In fact, as an early nineteenth-century French visitor remarked, the Turks' approach to domestic architecture was that of creating, visually and in fact, a feeling of impermanence closely reflecting their view of the inherent limited span of man's own life.

Although they differ in many details it is remarkable how similar the scale and general feeling of these Turkish houses are to those of the Japanese. In both of these traditional architectures one discovers a sense of space derived from an understanding of human scale and upon human needs, both physical and psychological. This sense of a human orientation of Turkish Ottoman architecture is a lesson from which we could well profit today. ◄

A note on further readings:

It is regrettable that so few articles or books are available on the subject of Turkish Ottoman architecture. Probably the most readily available is an article by A. M. Edwards, "The Turkish Palaces of the Bosporus," which appeared in the English *Architectural Review,* (Vol 90, pp 101-104) October 1941. The architectural faculty of the Istanbul Technical University has long been engaged in recording all aspects of Turkish architecture, and their publications contain a number of studies directly related to Turkish wooden houses; see especially, Sedad H. Eldem, "Characteristic Turkish House Plans" (Turk Evi Plan Tipleri), published by the University in 1955.

Much of the factual information which has served as a basis for this article was obtained through the generosity of the Faculty of the School of Architecture of the Istanbul Technical University, and especially from Professor Dugan Kuban.

A city must take care, facing the process of renewal, not to lose its personality, its individuality, that which makes it unique—and every city is unique, at least in some respect. Mr. Smith, in an address given before the Boston Patent Law Association last year, is talking about Boston, which is uniquely unique. But what he says can be taken to heart by all cities

Preserving the Symbol of Boston

by **Fred Smith**
Vice President, The Prudential Insurance Company of America

► Boston is on the way to somewhere. The question is: where?

This is not meant to be rhetorical, or facetious; it is a matter of greater seriousness than most people recognize. Boston is more than a city: it is a symbol. To the world it symbolizes America. To the United States it symbolizes the foundations of democracy. Everywhere it is part and parcel of history books, and it symbolizes the promise of freedom and liberty.

Should this symbol lose its vitality, or grow dull and tarnished and old and aimless, and fall by the wayside; if it proves no match for the new forces that are shaping the modern world—then Boston becomes a fallen hero, and so, to a greater or lesser degree, do all the things that the symbol of Boston stands for.

This is more important than it has any right to be, because we live in a world of symbols. Propaganda is built of symbols. In some areas, popular education is a parade of symbols. The Cold War is being fought with symbols—and *for* symbols in a large measure.

Our way of life might someday be affected by the fate of the symbol of Boston.

And if you will allow me one more general and sweeping statement, I'd like to suggest that Boston's future—the future of this symbol—is everybody's business because Boston's past is everybody's heritage.

Now it's time to get down to some cases.

Boston is on the brink of a new era. This isn't a cliché; it is a simple bookkeeping transaction. At least a half-billion dollars, and probably much more, will be invested in changing the face of this metropolitan area within the next five or six years: the Turnpike extension, the Prudential Center, the Government Center, the Auditorium, the West End Development, and substantial additions being made to existing buildings—all of this is construction well past the planning stage. Much of it is actually under way.

And for half a billion dollars in five years, anyone can buy a new era.

But new eras come in many varied qualities and descriptions and not all of them are desirable. Some are just new, and that's all that can be said for them.

If the statisticians know what they are talking about, then Boston's new era should bring prosperity if nothing else.

The Department of Labor has estimated that every million dollars spent in major construction creates a minimum of 115 man-years of work (a man-year being 1800 hours of actual construction work and 2000 hours of non-construction labor). So we are talking about an estimated 57,500 man-years of work that will be created within five years as a result of this effort. This ignores any multiplier effect of the expenditures, and does not include the added man-hours or material costs of the refurbishing and rehabilitation that inevitably will be inspired by Boston's major projects.

The new era also could spawn row upon row of bright new buildings of glittering glass and

shimmering steel with the fastest elevators in the world and efficient airconditioning, all dripping with contemporary fixtures and functional fittings and men's rooms as orderly and efficient as the inside of an IBM computer. This could happen. If it did, Boston would become a modern city. Some people might like it, and some wouldn't; but the net result could be to short-circuit the delicate and meaningful character of a city that somehow has retained its tradition of greatness in spite of problems that would have long since wrecked a lesser city.

Boston cannot afford to do nothing: but of course we are over that hurdle. But also, it cannot come to look like Cleveland or Pittsburgh or the newly emerging areas of San Francisco: Boston has to look like Boston if the symbol of Boston is to remain. And it must retain Boston's character if it is to have a competitive advantage over Cleveland and Pittsburgh and San Francisco and all the rest of the major cities that are redeveloping to attract new businesses and new, desirable people.

One object of redevelopment here should be to make Boston look even more like Boston than it looks now, and strangely enough this may be possible. Certain parts of Philadelphia are being restored to look more like Philadelphia than it has looked for decades, and what is happening? People are moving back into town, they are finding a rewarding pattern of life, the roots that people put down over the years seem still to be there in spite of the new construction—local industries are having an easier time attracting key personnel, and the tax return to Philadelphia has multiplied many times over in those areas where rehabilitation has taken place.

A monument should be erected to Philadelphia because it was here that the philosophy of redevelopment began to mature. Here is where they found out that there is more to redevelopment than new buildings.

Let's talk for a moment about redevelopment.

It started off in this country on a dead run, largely because our major cities are worn out and ragged and uneconomic. It was picked up and cultivated and promoted by people in and out of the Federal government who vastly oversimplified all the problems involved. The physical, obvious situation was so bad on its surface that nobody bothered to look underneath. The Federal government provided legislation and appropriations, and launched an architectural revolution with the implied assumption that urban evils generate primarily in old buildings, so if you eliminate old buildings you eliminate urban problems. Then the promoters moved in. Close behind them sailed a flotilla of well-meaning social workers confirming that human misery and delinquency might be eliminated, or at least greatly reduced, if only the people who live in slums could live instead in apartment houses. The net result of these forces was to bring on the bulldozer, to grind into dust vast sections of cities, and to give birth to what would appear to be new and better and more wholesome living quarters for the misled and underpriviledged.

Unfortunately, this is not always what happened.

It turned out that slums are as much a state of mind, as overused and outdated architecture; and some of a community's richest family ties and similar social forces for stability are sometimes found in the poorer sections. Uprooting older buildings often uprooted these established forces so they couldn't be put back. And rarely, but occasionally, sections that were technically blighted rose up in opposition to the developers and stopped elaborate redevelopment plans in their tracks. These were cases where the areas were blighted—in somebody's judgment, at least—but the people weren't.

By the time redevelopment got under way in Philadelphia, sober observers began to discover that the bulldozers and the wrecking balls were not only eliminating less acceptable living quarters, but were digging out and killing the taproots that human beings put down where they live.

In Philadelphia they began to recognize that too abrupt a change, too violent a stricture can prevent the creation of a well-oriented community. When an old community's physical plant is eliminated, the community also often loses whatever was left of its original orientation. New buildings don't cure human misery or juvenile delinquency, they only provide a new backdrop. And new buildings, commercial or residential, however, fancy and modern, do not inevitably attract new business firms or desirable people. It began to dawn on a few wise people in Philadelphia that the only successful way to recreate a more practical, economic and effective city is to rehabilitate the old one, and to do even this with the utmost care and understanding; *to add new buildings here and there, but to leave enough of the old and the familiar and the respected to provide ballast and the kind of security that a society gets from feeling at home.*

Why did they discover this in Philadelphia? I don't know that the real source of this wisdom has ever been traced; but I suspect that it emerged from a thoroughly capable policy committee of business and professional people who happen to have a remarkable sense of values. These are thinking citizens, in an officially established group.

They are well organized, conscientious, and proud of what they are doing. And they have a right to be.

There is no reason to believe that even yet this basic lesson about redevelopment has been thoroughly learned, nor that the wisdom of the observation is yet self-evident. We still find little men with short pencils doing endless figuring, trying to tell the story of redevelopment wholly in numbers, as though the nation's economists and architects and plumbers and plasterers and brickmasons and carpenters are working, like Walt Disney dwarfs, to create a new urban civilization.

The statisticians say that slum and blighted areas have been cleared out of 309 communities. They say that 11,500 acres of urban land have been acquired for redevelopment, and 3,200 acres have been turned over to private enterprise for new construction; 125,000 families, they point out, have been relocated, and presumably better integrated into the fabric of society. The government has committed $2.5 billion of its funds to redevelopment, which has been or will be supplemented, presumably, by commitments of almost half this amount by local authorities. The Commissioner of the Urban Renewal Administration has an even more optimistic figure. He says: ". . . it involves $4 billion in grants to cities to undertake projects, a contribution of some $2 billion by these cities as their share, and private investment of perhaps another $20 billion—a total of $26 billion in private and public investment in urban renewal."

Now to show where this is leading, the experts point out that the total value of real property in the United States amounts to more than $1,500 billion, and that the expected population growth over the next twenty years alone, without any improvement in standards, would require additional construction having a total value of about half that amount. That would then give us a package of national real estate worth $2,250 billion, without counting redevelopment and replacement projects.

At least two authorities in the field have estimated that the total investment required to redevelop all urban places over 2,500 persons would be $1,300 billion, in terms of 1958 dollars. Add that to the other figure, and this would bring our real estate assets, within twenty years, to certainly not less than $3,550 billion, even if you ignore twenty years' worth of inflation. Now this is a whopping big figure in anybody's book, and the capacity of such an investment to generate wealth—and taxes—is difficult to contemplate. But that's not all.

The experts who have taken us this far are willing to go still further. They have suggested that all urban renewal developments might profitably be completed in the short span of twelve years—going back to 1958, and forward to 1970. If this were done, it would mean an average expenditure on urban renewal of around $120 billion per year. This is about twenty per cent of our total Gross National Product over the twelve-year period, which seems prohibitive. If it weren't, the authors of this conjecture point out that endless wealth would flow into the economy as a result. They see this spurt of expenditure, much of it Federally financed, as building a firm foundation for great prosperity: and they view the ultimate result as a totally overhauled economic machine that will create prosperity for years and years to come.

In a new report to be issued by the National Planning Association, a time span of twenty years, rather than twelve for the completion of urban renewal projects is suggested. This brings the annual expenditure within the bounds of possibility providing our differences with Russia were to dissolve and the Cold War were to be called off. And I'm sure those experts would agree that even this pace would create a sizeable economic generator.

But in their enthusiasm for the principle and economic potential of wholesale redevelopment, *both groups are overlooking the larger problem of disruption and dislocation and social chaos, which would result—if all this were to be done in twelve or even twenty years.*

For purposes of social stability, a period no shorter than forty or fifty years might better be considered. People need time to adjust. They need time to put down new roots, and they need some of the old ground around while they are doing it. Changes must come in homeopathic doses, or the upheaval can prove disastrous. The cure might be worse than the disease.

And now this gets us back to Boston.

We have in hand an order for a half-billion dollars in new construction in the Boston area. In terms of actual dislocation and disruption, this particular order is not too significant, because it involves a relatively small amount of slum clearance and new housing, and it includes only a few large and scattered projects. While none of these projects has the smell of old Boston about it, each of them is set in an area where there is great opportunity for nearby rehabilitation. It would be possible to so surround each or these developments with more traditional construction or reconstruction, that the non-Boston effect might well be dissipated. This is particularly true as long as open public space is an integral part of the design of these developments. Prudential Center, for example, will provide more than a quarter of

its entire area in open public space, even after it is completely developed. Temporarily, considerably more than half will be open and much of it landscaped.

But with such a start as we have in Boston, slum clearance and housing programs and further construction will develop. The speed with which this happens, the speed with which this snowball rolls downhill, constitutes a hidden threat in this situation. Just as twelve or twenty or even forty years is too short a period in which to make new cities out of old ones across the country, so is five or six or ten years a dangerously short period in which to seriously change the face and root structure of Boston.

The so-called rebirth of Boston—perhaps we could hopefully call it the resurrection of Boston—should be presided over by philosophers as well as bookkeepers. It would be criminal and self-defeating to turn Boston into Pittsburgh-by-the-Sea. It would be a tragedy if the Turnpike extension were to make it possible for travelers to come from Route 128 into the heart of Boston in a few minutes—and then all of a sudden nobody wanted to. Yet this could happen if Boston were put on the redevelopment production line. The things that attract people to Boston—and this attraction lies at the very base of any economic future Boston may develop—can only be lost in the wake of a relentless drive for bulldozing and new construction.

I suggested a few minutes ago that Boston is going somewhere, and implied that the time has come to find out where. I have tried to point out in as many ways as possible, within reasonable bounds of courtesy, that it can go almost anywhere from here—but better not. The future course of Boston's rehabilitation needs loving care as well as highly efficient technicians.

Perhaps this is a caution to the Boston Redevelopment Authority—a caution which they may not need—not to become so flushed with their early but hard-earned success, not to become so absorbed in technical progress and statistics and economics, that they forget the vast human significance and possibly worldwide influence of what they are doing. They must have discovered by now that while other redevelopment authorities in other areas can do pretty much as they please, and have only local and fairly standardized resistances to overcome, the BRA has a whole omnibus-load of back-seat drivers, hauling from almost anywhere, including at least one from Newark.

Perhaps what is being suggested is that Philadelphia's committee of responsible prominent citizens, if it could be duplicated in Boston with people who have and would conscientiously apply good judgment, and do it with real dedication, might prove one way to give direction as well as added impetus to Boston's future in this area of activity.

And perhaps all I am saying is that Boston is too great a town, too magnificent a tradition, to risk losing it by default. Rehabilitation is essential if Boston is to survive. Thoughful rehabilitation will capitalize on Boston's distinctive position and significant assets, making them more effective than ever before. And in this, as in so many other things, Boston's success can influence the whole course of urban rehabilitation in the US. ◀

COMING IN THE APRIL JOURNAL

Salt Lake City's Second-Century Plan
Robert H. Woody

The story of Downtown Salt Lake City's Second-Century Plan is one of teamwork, a partnership of architect-citizens and businessman-citizens—told by a newspaperman who worked closely with them

Techniques of Comprehensive Services
Donald H. Lutes AIA

A brilliant young practitioner tells how his firm built up a successful comprehensive practice in a small city

Miami, A Sequel
H. Samuel Krusé AIA

This Pre-Convention issue contains more on the Host City and the Convention

Architectural Horizons
R. Furneaux Jordan

One of Britain's leading critics says "we must do the best with what we have got—a dying culture and a half-baked architecture"; but there is, he says, "a grain of hope"

Making an Urban Design Survey

The third in the series of articles sponsored by the AIA Committee on Urban Design

Art and Sculpture in Schools
Margaret H. Phillips

A picture-story of art in the school environment, in recognition of the current trend toward the inclusion of art in public buildings

Are Architectural Competitions

At the fall meeting of the New England Regional Council of the AIA in October 1961, a portion of the program was devoted to a symposium on architectural competitions. Since this is a topic of great current interest within the profession, we here present condensations of each of the addresses by J. Roy Carroll Jr FAIA; Frank W. Crimp AIA; Viljo Revell SAFA, MRAIC; Eric R. Arthur FRAIC; and Morris Ketchum Jr FAIA

Competitions in the United States

AN HISTORIC PERSPECTIVE

by J. Roy Carroll Jr FAIA, First Vice President of the AIA

► As Henry Saylor pointed out in his scholarly history, "The AIA's First 100 Years," the competition idea was perhaps, in the early days of the Institute, the most disturbing factor in the relations of architect to architect and architect to potential client. The layman of that day, even though he had a vague impression that there might be some sort of difference between the methods of the merchant and the professional man, shared an almost universal belief that he was fully capable of judging the seller's ware, and this included the competitive offerings of architect's drawings. In protest against this sort of attitude, apparently shared by the Federal government, at that time the New York Chapter refused in a body to enter the announced competition in 1857 for the city's new Post Office. And our first Institute President, Richard Upjohn, observed that these competitions, as then conducted, had produced "evil, and only evil, to the profession."

In 1896 the Tarsney Act was passed, apparently with Institute encouragement, which permitted the Secretary of the Treasury, heading the government's building agency, to hold limited competitions, the winning designs in each case to be chosen by juries composed largely of architects. The Act, as passed by the Congress, however, provided for no funds for a jury or for reimbursement to the competitors. At the beginning Institute members served as jurors without pay, but the opposition to the Tarsney Act continued to increase, and it was repealed in 1912.

The years 1920 and 1921 marked a turning point in the whole idea of architectural competitions. In 1920 Bertram Goodhue won the Nebraska State Capitol Competition, and in 1921 H. Van Buren Magonigle won the competition for a national war memorial in Kansas City. Both of these programs were written to make clear the fact that the purpose was the selection of an architect, not the irrevocable choice of a design, and the specific space allocations and limits of cost were almost neglected.

Strangely enough, the buildings as constructed and the winning designs of these two projects differed very little. Nevertheless, it was apparent that some lesson had been learned, for in 1926, the Chairman of the Competition Committee of the Institute reported that there had been no open competitions for state capitols or important courthouses during the preceding five years.

In 1945 the Institute published a circular of information setting up rules for the conduct of a competition, and three years later added to it

Worthwhile? A SYMPOSIUM

regulations for secondary competitions. This Code for Competitions has remained virtually unchanged since that time. It provided for:

- a Professional Adviser
- a written program, a contract between client and architect, anonymity of submission of drawings
- a judgment by an expert and unprejudiced jury, consisting of a majority of architects
- an agreement to employ the winner of the competition as the architect of the building

The advisability of holding architectural competitions has been a matter of lively discussion between architects and a subject of frequent editorials in the architectural press. In 1937, in the *American Architect,* the Hon Otha D. Wearin, Representative to the Congress from Iowa, warned the profession that competitions were needed for new buildings in our nation's capital. He pointed out that unless something was done soon, the architecture of the future public buildings of the city of Washington might acquire a thoroughly mediocre and monotonous character. This man reminded the architects of four competitions for structures in the Federal city won by architects who were at the time of their successes thirty or thirty-one years old—the US Capitol, William Thornton; the White House, James Hoban; the Washington Monument, Robert Mills; and the Pan-American Building, Paul P. Cret.

In the May 1958 *Architectural Forum,* editor Larson reminded his readers that no important competition had been held since the Jefferson Memorial ten years before. He urged more two-stage competitions, because of the opportunity thus presented to the young architect and the small office. The continuing question is whether competitions *are* good for the architect, for the owner, for the public, for the profession, and for architecture itself.

In 1922 the Chicago Tribune Building Competition was held, and this well-publicized event attracted 281 sets of drawings from all over the world. First place went to Raymond Hood and John Mead Howells for a design clothed with Gothic details culminating in a tower supported by flying buttresses. The selected design was built. To a Finnish architect, Eliel Saarinen, whose drawings cleared customs belatedly to be admitted to the final stage of the competition, went second prize.

When all the drawings were placed on display, most critics and architects felt the Saarinen design should have been awarded first place and one expressed the hope that from it would be born a really distinctive, truly American architecture. Louis Sullivan, who had not entered the competition, wanted the verdict reversed, and said "The Finnish master-edifice is not a lonely cry in the wilderness, it is a voice resonant and rich, ringing amidst the wealth and job of life. . . ."

A competition for the Federal Reserve Board building in Washington, DC, held in 1935 was limited to a few architectural firms. The jury was unanimous in awarding the commission to Paul P. Cret. The superiority of the design placed first is obvious to anyone who examines the submissions, and the executed building, which closely followed the competition drawings, is one of the few handsome public buildings erected in those years in our national capital.

The competition for the Oregon State Capitol, held in 1936, was open to all architects in the United States, and was won by Trowbridge and Livingston, and Francis Keally. It is of special interest to us now, in part because of the final report submitted by the Professional Adviser, and the warm comments by a number of the competitors in rebuttal to it. In this document Walter Thomas records that the jury decided the winning design placed first in plan, second in section and third in elevation! Such a method of judging a

Architectural Competitions in Canada

by Eric R. Arthur FRAIC

► The notion that the finest design for a building may be achieved through competition is one with a long history in British architecture. The Houses of Parliament in London are perhaps the most distinguished example of a building won in competition in Britain, with the two cathedrals and St George's Hall in Liverpool as runners-up.

With the Houses of Parliament of 1840 as a model, it was not surprising that the English and Scottish architects who came to Canada in the first half of the nineteenth century seized on the competition technique, and exploited it for a wide variety of building types. I speak with some knowledge of Toronto where several of our churches, university buildings, the University Club, the old City Hall and the Parliament buildings, to mention only a few, were won in competition.

Not the most beautiful building in Toronto is the Legislative Building for which a competition was held in the 1890's. Fifteen architects competed for a structure to cost $600,000 and the judge was a Mr Waite of Buffalo. He is reputed to have been a blacksmith in Lancashire who, on a bank holiday in Blackpool, had his head read by a gypsy who said architecture was a more suitable profession for him. Anyway, in Toronto, he found no single design worthy of the great Province of Ontario in the competition, but offered to make a hash of the better schemes as a contribution of his own. This he was permitted, perhaps urged, to do with the results that those who know Toronto will have seen.

Considering our architectural population, we have gone rather heavily into competitions this last year. During twelve months, we have had national competitions for a Town Hall in Red Deer, Saskatchewan, a bank, a housing scheme in the $15 million class in Ottawa, and, finally, a building on Prince Edward Island to commemorate the meeting in Charlottetown of the Fathers of Confederation in 1864. The population of Charlottetown is 17,000 rising to 60-70,000 in summer. The building which comprises a theater, an art gallery, a museum as well as legislative and municipal libraries, will cost about $4 million.

There is no doubt that our present concern with competitions stems directly from the Royal Commission on National Development in the Arts and Sciences of 1949. The order in council which created the Commission said in part, "That it is desirable that the Canadian people should know as much as possible about their country, its history and traditions, and about their national life and common achievements."

In the published report of the Royal Commission, a section was devoted to the importance of competitions for public buildings as well as the desirability of setting aside fixed sums for their embellishment by mural decoration and sculpture.

Our first opportunity to implement the latter will come with the building of the Toronto City Hall. What percentage of $25 million should be spent on art is something that we are at present seriously considering. Bearing in mind the size of the building and the cost of the artists' services, one per cent may not be sufficient, but even that would do much to encourage the Canadian artist.

I seem to have had something to do with the conduct of a number of Canadian competitions, but I do not embark on a new one without considerable qualms when I think of the cost to the average Canadian competitor. I have been more disturbed by reports of old students who have spent from $3000 to $10,000 on recent competitions than I have of one of your AIA members who told me he spent $45,000 on his drawings and model for the Toronto City Hall. I wrote on this subject recently in our *Journal* of the Royal Architectural Institute of Canada. It was evidently an article which I wrote with some feeling and a sense of guilt, because a very nice American replied that, by some strange chance he had seen the article, and he hastened to tell me that all the figures I gave were insignificant potatoes not worth a moment's anxiety. The firms which competed in the San Francisco redevelopment program spent a total of nearly $1 million on the competition.

There is something lunar and remote about such a statement, and I still worry about the $3000 spent by a young graduate drawing away at night in his two-draftsmen office.

Both for the National Gallery of Canada, an important building that might have cost $10 million, and the Toronto City Hall, in the neighborhood of $25 million, I recommended a two-stage competition, and, in each case, I endeavoured to

indicate that the jury was wise enough at the first stage to recognize genius and the grand conception in a sketch. Not only did we receive no sketches of the 5B pencil variety, but my conditions for the City Hall that the model be block and all in the same tone of gray, produced cries of alarm from Hong Kong to Addis Ababa. I relented and permitted color and a high degree of finish. It was after a weekend's talk with Eero Saarinen that I put the block model in gray in the conditions, and I am sure I was wrong in making a change. Mr Revell's model and others that followed the original instructions had a dignity that was often not present in the highly colored models.

To conduct such a competition can not be a one-man job. Before the conditions were written, the city had hired an efficiency outfit to prepare a report on accommodation and to make recommendation as to economy and efficiency in the operating departments. That was done for a fee of something like $35,000. Always at my call was a most dedicated band of architects in the office of Town Planning Commissioner. The immense task of checking areas in, say, the final fifty was theirs, and again, in the second stage, where a total square footage of 700,000 was demanded, checking was a most arduous job. Great credit must go to our Mayor who fought first for the international competition, then two elections and a referendum! Last week money was found and the sod will be turned next month.

I am tremendously interested in your Boston City Hall. With so much available talent, and so excellent a jury and set of conditions, it cannot help but come to a very satisfactory conclusion. ◄

The Value of Competitions for Urban Design

by Morris Ketchum Jr FAIA

► No one can plan a city with a set of statistics and an IBM machine. The statistician, the lawyer, the banker, the builder, the engineer are not trained to organize space, structure and traffic into a pattern for urban living. Only the architect is basically equipped for this task. Our professional problem is to enable as many competent architects as possible to enter and engage in this field of practice.

The profession's training should be better aimed toward urban design, and its opportunities for participation in urban planning projects must be increased. Schools of architecture should include the basic elements of urban design in their curricula; architects in practice should take time to study theories of urban design; governmental agencies in charge of urban redevelopment should, where circumstances permit, use architectural competitions as the basis for selection of developers and architects.

Architectural practitioners who have finished their schooling and must learn by doing can find no better testing ground for their abilities than the architectural competition. Win or lose, competitions are an education in themselves. When they are won, they open the door for the winner to new fields of architectural practice.

Competitions are usually expensive in terms of time, effort and money. The small firm, because of its lower overhead and operating costs, is better able to afford them than the large, well-established firm. This is as it should be, since the large firm has other doorways open to it; the small firm has often only one—the competition.

The profession should therefore encourage—and has encouraged—appropriate competitions for urban redevelopment. The results, as a rule, have been excellent. Such examples as the Golden Gateway, Red Rock Hill and Southwest Washington competitions are outstanding. The means and methods used in these various competitions are still experimental but out of the experience gained there can evolve ideal standards for the conduct of this type of competition.

The City of San Francisco, through its able Redevelopment Agency, invited builders and their chosen architects to submit plans for the redevelopment of the Golden Gateway project. The site of this project is an area on San Francisco's

waterfront formerly occupied by a group of produce markets, now abandoned and blighted. The land involved was offered for sale, at an unspecified price, to that builder whose architects produced the most appropriate and feasible plan for its redevelopment as a residential community with some allied commercial uses. Emphasis was placed on both the quality of the solutions to be submitted and on their contribution to the total character and environment of the city as a whole.

The agency selected an advisory panel composed of six architects and one mortgage banker. Headed by Mario Ciampi, Chairman, it included: Lawrence Anderson, Henry Churchill, Louis Kahn, Minoru Yamasaki, Ferd Kramer and myself. The panel was instructed to evaluate each of the solutions submitted by eight different developer-architect teams. It was not instructed to select a winning solution. After the panel had submitted its report, the San Francisco Redevelopment Agency itself carefully analyzed both the report and the bids submitted by each developer-architect team for the purchase-price of the land. It is noteworthy that the agency selected the team solution given one of the highest evaluations by the panel even though another team had offered a higher purchase price for the project site.

As can be appreciated from the following brief reviews of the eight projects, the solutions were varied and interesting. Five proposed high-rise buildings, three showed a combination of high-rise and low-rise structures. All attempted to provide total facilities for living within the project area except for educational facilities which had been excluded from the program.

The proposal submitted by the Kern County Land Company and the Del E. Webb Construction Company with Welton Becket and Associates and Lawrence Lackey as associate architects provided for 2200 residential units distributed in high-rise apartment towers and low-rise "town houses." The authors of the project made a serious effort to provide a total environment for its occupants. The physical, cultural and spiritual aspects of community living, as well as the area's relationship to its urban surroundings, were well studied. Pedestrian traffic between buildings was routed on elevated plazas and walkways thus separating it from ground-level motor traffic. Unfortunately, the total plan seemed to have been worked out block-by-block with more emphasis on charming detail than on over-all unity.

The solution entered by Sidney Leiken Enterprises and Theo G. Meyer & Sons as builders and Jan Lubicz-Nycz & Associates as architects was composed of a single dramatic high-rise structure of cruciform plan, with 2100 apartments distributed in thirty-three stories. A shopping and recreational center was placed in close proximity to this central structure. The advisory panel felt that here was a remarkably bold, dynamic and provocative sculptural solution, set in a spacious green area, with magnificent views for all its inhabitants. The panel also noted several basic weaknesses including an architectural confusion at the center of the cruciform plan, excessive vertical and horizontal circulation, and an overwhelming scale in relationship to the existing city.

By contrast, the proposal of the Utah Construction and Mining Company and the Henry C. Beck Company, builders, and Angus McSweeney, Donald Beach Kirby and Loubert and Glynn, architects, was completely static and oppressive and seemed at variance with all the basic essentials of urban living in San Francisco. Its 1700 apartments were contained within six slab-like identical high-rise structures, placed in a chevron pattern on a center axis leading nowhere. There was little or no separation of auto and foot traffic.

Another high-rise scheme, entered by Eichler Homes, Inc and the Dinwiddie Construction Company as builders and Anshen and Allen as architects, had ten apartment towers, linked together into three groups which were designed to harmonize with the characteristic informality of San Francisco's skyline. This refreshing idea did not quite come off. The building facades seem like an artificial imitation of a pattern accidental to the cityscape. The towers themselves are false fronts superimposed on buildings that are actually corridor-type slab structures. Facilities for community living, for parking, for shopping are not too well organized and the traffic patterns for autos and pedestrians not quite resolved.

The problem of automobile circulation was boldly resolved in the next project. The solution submitted by Barrett-Diversified-Lesser-Braemar as developers and Daniel, Mann, Johnson & Mendenhall and Corlett & Spackman as architects covered the entire site with an elevated platform. Motor traffic and its garages were below the platform at ground level; community shopping, outdoor recreation and relaxation were placed on the platform itself. This imaginative idea was not fully realized. The elevated area presented a bleak and barren expanse.

The proposal submitted by Tishman-Cahill Renewal Associates as developers and John Carl Warnecke & Associates, Gardner Dailey & Associates and Victor Gruen & Associates as architects was a sensitive and distinguished solution to a very difficult planning problem. A variety of residential buildings—six towers, three slabs and groups of two- and three-story town houses—were combined in an over-all plan well suited to city living and well integrated with its existing urban en-

vironment. Unfortunately, the slab structures were not successful and the town houses so numerous that they crowded the site. Separation of motor and foot traffic was not adequate.

Bold, spacious and forthright in conception, the solution entered by Lewis Kitchen Realty Company, developers, and Skidmore, Owings and Merrill, architects, placed 2575 apartments in three giant slab structures grouped around a broad elevated plaza which housed garages and a shopping center. This building group was set in a great park made possible by the concentration of living units. The panel agreed that this was an eloquent and impressive proposal, monumental in concept and beautifully presented. Its very magnificence, however, was based on a somewhat inhuman scale.

Because of its exceptionally successful over-all urban planning concept, the advisory panel gave strong approval to the scheme submitted by Perini-San Francisco Associates, developers, and Wurster, Bernardi & Emmons and DeMars & Reay, architects. The basic concept of combining high-and low-rise buildings—five towers, three slab buildings, numerous "maisonettes"—was convincingly presented and set in a well-organized urban environment. Like the first proposal review by the panel, foot traffic was placed on elevated plazas and walkways which formed the garage roofs; motor traffic restricted to the ground-level street system. The central square park with its adjacent shopping facilities provided a suitable focal point for community life in the San Francisco tradition. In fact, this project promised to be an appropriate and gracious extension of the basic urban pattern.

Its buildings were not quite as well conceived as its plan. Their scale was good but their details were less inspired. The suggestion was made that other talented architects be employed to give them more individual character and elegance.

The Golden Gateway competition emphatically proved the value of the competition system to the cause of urban design. It presented the city of San Francisco with a rich and varied choice that included at least four solutions of outstanding merit. The San Francisco Redevelopment Agency has since selected the project of Perini-San Francisco Associates, developers, and Wurster, Bernardi & Emmons and DeMars & Reay, associated architects, as the basis for final development of the Golden Gateway area. John Carl Warnecke has been employed as consultant on building design.

As a competition, however, Golden Gateway has its faults. There was always an inherent danger that the lack of a stipulated price for the project site would throw the result to the highest bidder regardless of the architectural merit of his proposal. The competition program was so loosely drawn that it encouraged competitive spending by each developer on the preparation of drawings and models. Vastly excessive sums were spent and one competitor, unwilling to invest heavily in a gamble, withdrew his entry.

Since then, the San Francisco Redevelopment Agency has tried out another basis for architectural competitions. In the case of the Red Rock Hill project, which involved similar basic residential and shopping facilities, it decided to hold a purely architectural competition. Ninety architectural teams submitted entries. A distinguished jury of three architects and two developers then selected ten winning designs. From those ten designs, the agency and its staff architect made a final selection of four very excellent projects, one of which will now be chosen for final development by the successful competitive bidder for the site.

By contrast to the methods used in the Golden Gateway competition, this method results in two parallel competitions—one for the architectural solution and one in which qualified developers compete financially for the land itself. It eliminates land-cost as a decisive factor in the choice of an architect and provides the builder with a choice of preliminary development plans at no cost to himself. By careful programming under the advice of a Professional Adviser, the presentation requirements for the architectural competition were also kept reasonable in scope and cost.

The Redevelopment Land Agency of Washington, DC, recently announced the result of still another type of competition. The architectural firm of Keyes, Lethbridge and Condon and the Tiber Island Corporation, developers, have been awarded the commission for developing a waterfront residential site in Southwest Washington with high- and low-rise residential units grouped around a central plaza. Here the competition used was, first, to fix the price of the project site so that land-cost would not be a competitive factor and, second, to then hold an open competition for developer-architect teams. The eleven entries submitted, all of high caliber, were evaluated by an architectural jury which also unanimously selected the winner.

Of all these competitions, the Southwest Washington method would seem to offer the most promise whether the project be residential or not. With a Professional Adviser interpreting competition requirements founded on AIA standards, with land-cost frozen and with competition expenses minimized, with the architectural jury authorized to select the winning solution, the stage is set for the best design results obtainable from developer-architect teams. It is a very practical formula that may help to enrich the field of urban redevelopment with fresh architectural talent. ◄

Committee on Professional Practice
Daniel Schwartzman FAIA, Chairman

The Architect's Cost of Rendering Service

by **Terrell R. Harper AIA**

► With the trend toward basing charges for architects' services on either a professional fee plus reimbursement of cost, or a multiple of direct personnel expense, it is increasingly important that the architect be accurately informed as to his actual cost of performing those services. Regardless of their respective methods of charging for their services, the larger firms, and those architects offering "expanded services," have long been aware of the importance of accurate job-cost records, and have maintained them in one form or another. However, spot-checks in several sections of the country within the past year or two reveal that many architects have either very meager or no records of their costs of services on specific projects.

In an effort to help their fellow architects help themselves, the Committee on Professional Practice has evolved a relatively simple form on which the cost of performing professional services for a single project can be recorded. The information each practitioner will require in order to record the costs involved in designing, planning, specifying and administering each project can be readily transferred from simple check-stub and time-slip records, or from the most complex cost-accounting system. The value of maintaining such a record has multiple significance, and will become apparent once one "gets into the habit." The keeping of and reference to such records by the individual practitioner will reveal much of comparative value between projects, and will reflect a dollars-and-cents picture of the many-shaded and widely varying levels and qualities of professional service. By merely leaving anonymous the specific names and locations of projects, mutually helpful information might be exchanged between individual firms, or members of a chapter or regional society, without disclosing any personal or "trade" secrets, should such exchange appear desirable.

No official use or general exchange of this form, or of the information it should reflect, is proposed or contemplated by the Committee on Professional Practice, nor is it anticipated that the Institute will distribute it as an AIA Document, unless there is widespread demand for it from AIA members. It is offered at this time only as a suggested form, for reproduction intact or to be modified to suit the individual practitioner's wishes. It is hoped that this type of form will be used by more and more architects, in order that each architect may be better informed concerning his own costs of performing services relative to specific projects. The Committee on Professional Practice will welcome constructive criticism, comments, suggestions, questions or inquiries. Address them to the Department of Professional Practice at the Octagon.

Architect's Cost of Rendering Service

(To be executed by individual practitioner for his personal records and information)

1 Project Name
& Location: ______________________

2 Project Type
& Size: ______________________

TYPE STORIES CU FT SQ FT
(SEE AIA DOC NO D-101)

		% of Total Construction Cost
3 *Construction Cost of Project:*		
a General Construction	______	______
b Plumbing	______	______
c Fire Protection	______	______
d H V & A C	______	______
e Electrical	______	______
f Vertical Transp	______	______
g Site Development	______	______
h Other ( )	______	______
Totals:	______	______
4 *Architect's Cost of Services:*		
a Preliminary Design	______	______
b Working Drawings	______	______
c Engineering Consult	______	______
d Specifications	______	______
e Field Inspection & Job Administration	______	______
f Other ( )	______	______
Total Architect's *Cost* excluding overhead & profit	______	______

5 Notes:
a Refer to Project files for job history.
b Cost of Services is related to % of Total Construction Cost to facilitate comparison with other projects.
c Overhead and profit are excluded from the form since these will vary depending upon how the practitioner accounts for his own time and upon total fee. These may be added to this form as the practitioner wishes.

This Series is a Project Financed by Your Supplementary Dues

Architectural Presentation to Clients

by **Herbert H. Swinburne FAIA**

If they are to be commissioned to perform comprehensive services for buildings and their environment, architects must be capable of explaining their services to clients in terms that are completely understandable to clients

For years, the members of our firm have wondered how best to present our services to potential clients. For years we wondered what clients were. What did they all have—or need—in common? How does one reach them? How do we communicate with them? How should we organize ourselves to serve them?

What is a client? For that matter, what is architecture? What is architectural service?

Clients usually have two things in common. They don't know what an architect is. They don't know what his services should be.

Architects usually have one thing in common—they don't know how to speak a language their clients can understand.

How should one present a concept of comprehensive services to a client? Dramatically? But simply and intelligently?

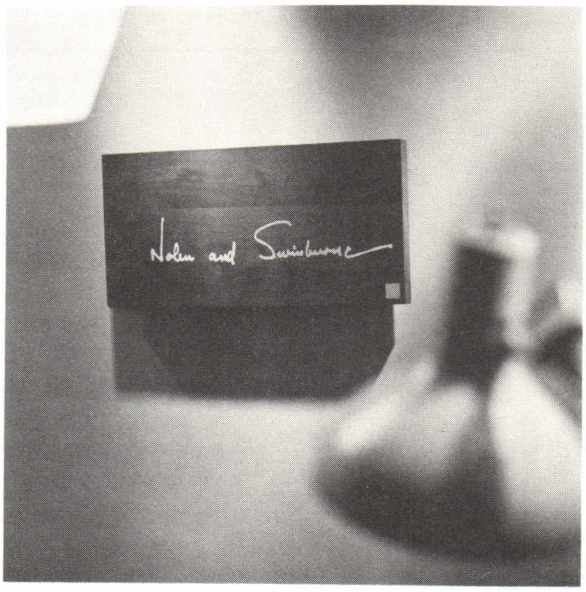
How does one get a client to understand the architect? Or architecture?

Each office has its own ideas on how to go about this. We've been asked to describe ours.

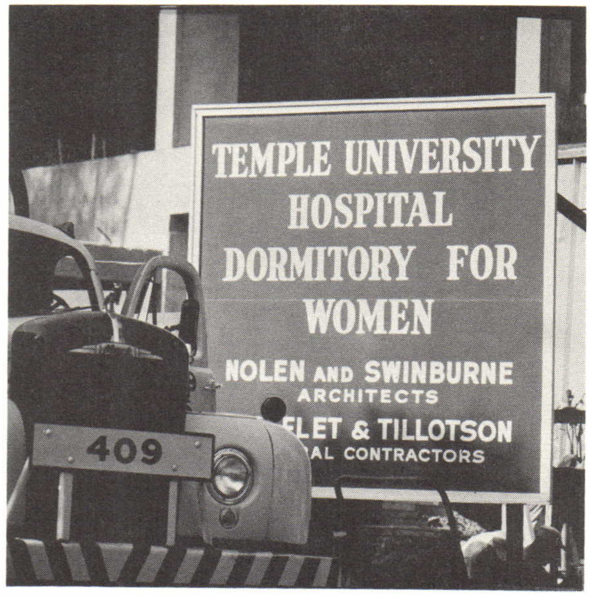
The presentation we use is neither new nor novel. It is based on a concept of comprehensive services, as we see it, and as we practice it. It is intended to guide a potential client through the labyrinth of planning, design and construction, and then convince him that the services of our firm are those he should use. We speak in his language, not ours. Facts are simple—no hedging.

The client is pulled into the story by the use of two projectors and two giant screens nine feet square, saturated with full color. The client, whether one individual or a very large group, is seated in a comfortable, quiet, informal environment. He can hear well and see well. The room is dark and the sequence of information is very carefully arranged so that no questions occur until after the presentation. Pictures and language are woven together carefully to give *understanding*—full *understanding* of architectural services—full *understanding* of how one must be organized to analyze objectively, conceive creatively and build realistically.

On the pages following are shown a few examples of slides selected from the Nolen-Swinburne presentation that is made to potential clients. In the actual presentation, all slides are in color; the complete presentation includes about 75 slides. All slides are keyed to a prepared script that is read by one of the principals of the firm; all slides designated left (L) or right (R), as an indication of their positions in the left or right projector, and numbered to indicate their order in the presentation. This numbering system is used for the illustrations that follow. Additional information on the organization of Nolen-Swinburne is included in an article on the firm, published in Architectural Record, *February 1963.*



L-1



L-2

RANGE OF WORK is indicated by our planning and architectural work in the following seven fields:

Education	Religion
Government	Medicine
Recreation	Housing
Business	

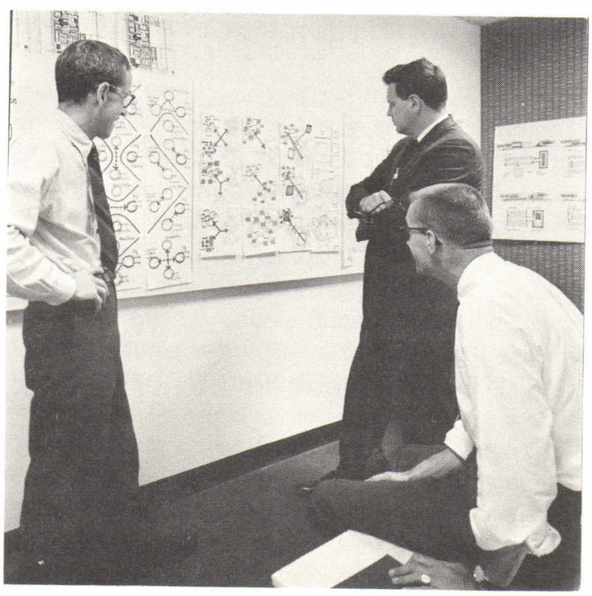
Since 1950 our firm has handled 77 projects with a combined value of more than $100,000,000.

In addition we are engaged in master planning for five present and future education projects totaling almost $150,000,000.

L-3



L-4



L-6



R-5

(L-1) "Let us introduce ourselves, Nolen and Swinburne, Architects & Planners. Jim Nolen and Herb Swinburne have been together since 1949 . . . in the office . . . and (L-2) in the field."

(L-3) "Since 1950, we've completed 77 projects valued at over 100 million dollars . . . (L-4) This is a $250,000 library."

(L-6) ". . . now you've seen the partners . . . here are the associates who head up our three principal divisions . . . (R-5) And here is one of our drafting rooms. . ."

How does one generate understanding? Here is how we go about it. But before proceeding, a bit of history is necessary.

The progress of our office toward comprehensive services and their explanation to clients has been made in five major steps, extending over the years from 1957 to the present: 1957-9—Re-definition, for ourselves, of the word architecture, 1958-61—Changing of our concept of architectural practice, in order to implement this definition, 1961—Reorganization of the office around our new concepts of service, 1959—Initiation of a research study on the art of professional communications, in order to develop better public and client understanding of our on-going projects, and 1962-3—Development of a system of professional communications, in order to reach potential clients by telling them how we practice our new concept of architecture.

Some of the results of these five steps are indicated in the illustrations shown here. The results have exceeded our most optimistic projections. Some of our thinking on the redefinition of architecture was presented in a speech made at the AIA-NSF Conference at Ann Arbor, Mich, in March 1959, as follows:

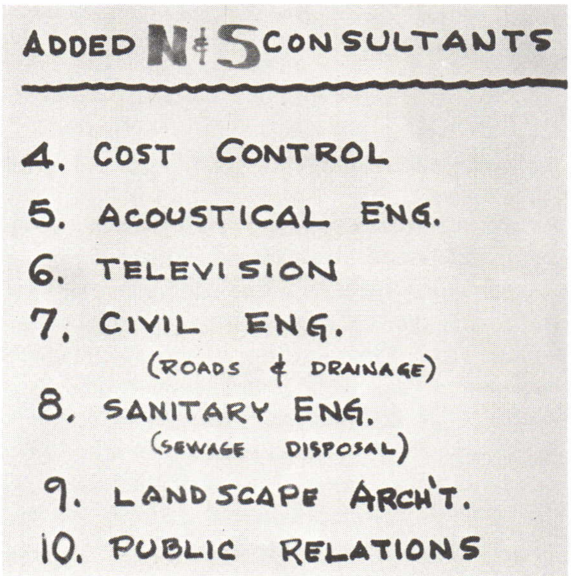
"A century and a half ago, Webster, defining the word 'architecture,' said it was the 'art of building; but in a limited and appropriate sense the art of constructing buildings for the purpose of civil life.' Today Webster defines the word in almost the same language except to say architecture is the 'art or science of building . . .' and with one word adds the effects of a century of Industrial Revolution to the concept of architecture.

"The sticks and stones of shelter, submitted to the sophisticated manipulation of science and technology, have now become the buildings, great and small, of the twentieth century. The public at large, and many architects, define architecture in terms of separate buildings. These are thought of as an assembly of materials and equipment shaped to perform some function efficiently, economically and beautifully.

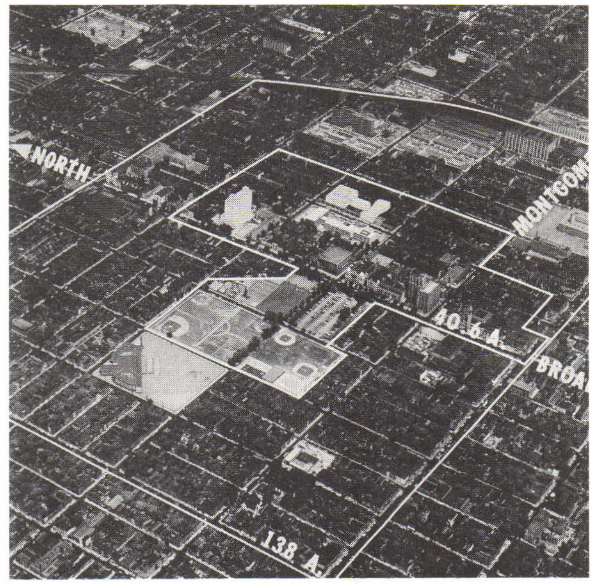
"The physical aspects of architecture and its appreciation through visual perception are well understood, particularly as related to individual buildings—less so as related to groups of buildings.

"I suggest, however, that today the definition of architecture, its concept by people everywhere, and its actual practice by the professional, are too limiting, too narrow in scope—only part of a larger picture. Too much of an emphasis on concrete physical evidence; too little understanding of man and society. Too little recognition of the true role the architect should assume.

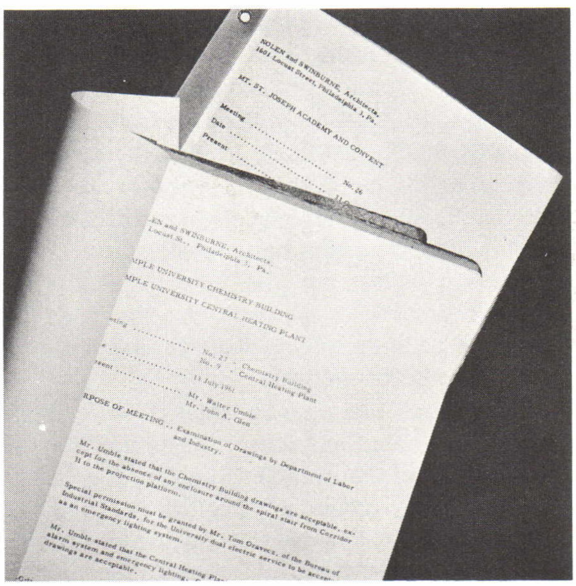
"Since man first met other forms of life and shared a natural environment with them he has been dissatisfied. He has constantly altered, changed and re-arranged his natural environment to suit his own needs and purposes. Today there are few areas in the world where man is still completely dominated by his environment. For the most part he is at least equal to it and manipulates small sections of it at will to make a more comfortable world. In the centuries ahead it is to be expected that he will eventually gain complete control over his total environment.



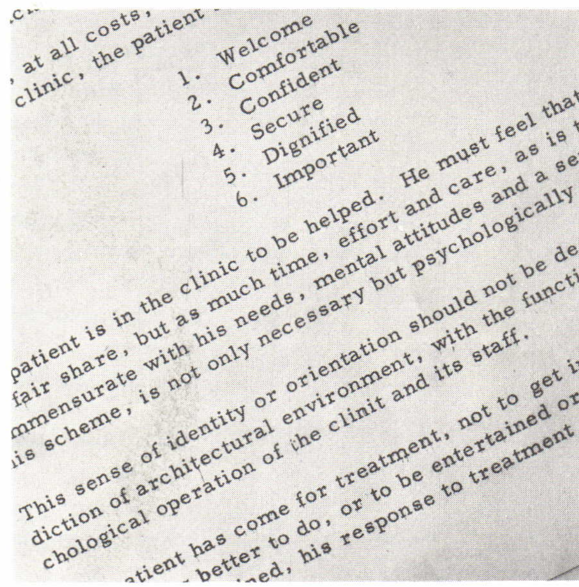
R-6



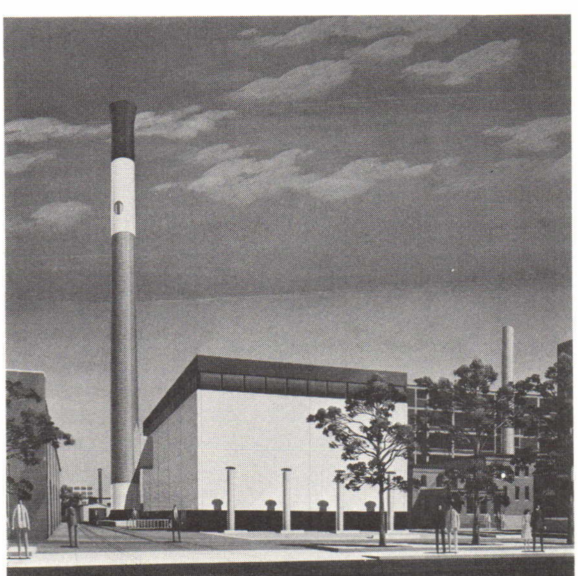
L-9



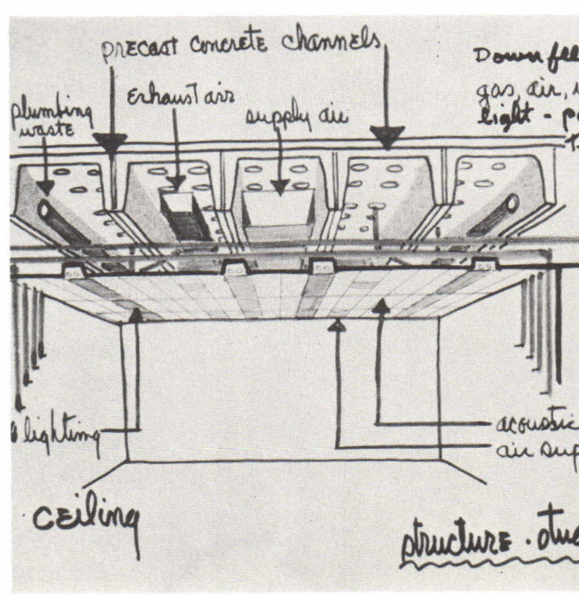
L-11



L-15



R-15



R-20

"But these are physical aspects. Man must also live as an individual in groups of many sizes and as he alters the world he lives in, his needs, and the needs and purposes of the people in his society become controlling influences on the manner in which environment should be handled. New fields of thought are required here and the ultimate goals of man become a part of the picture in re-arranging the world to his liking.

(R-6) ". . . N & S services include these added consultants whenever required . . . (L-9) Finally, we have a department of URBAN DESIGN, *and are well equipped to render Planning Services on a large scale . . ."*

"Architecture then is not just the art or science of building especially for the purposes of civil life.

"Architecture is the creation of a total environment within which can be accomplished the aspirations of man."

Further refinement of these thoughts has led us to a simpler and more succinct definition of architecture, which sums up our thoughts on the subject to date.

"Architecture is not a thing apart—beautiful for itself alone.

"Architecture is not a theory alone—of rhythmic living structure; nor of exquisite meaningful form; nor of superbly modulated space; nor of piercing intellectual synthesis; nor of totally integrated design.

"Architecture is not a study in realism exclusively—of program analysis; of functional relationships; of mathematics and law; of science and technology; of labor and business; of economics and finance.

(L-11) ". . . Information Flow insures that you will receive a full set of minutes . . . you'll always know what's going on . . . (L-15) Environmental programming is of concern to the people who will use the building . . ."

"Architecture is not the creation of a building alone; a building with all its beauty, discipline and reality. It is that building and its relation to those who will use it.

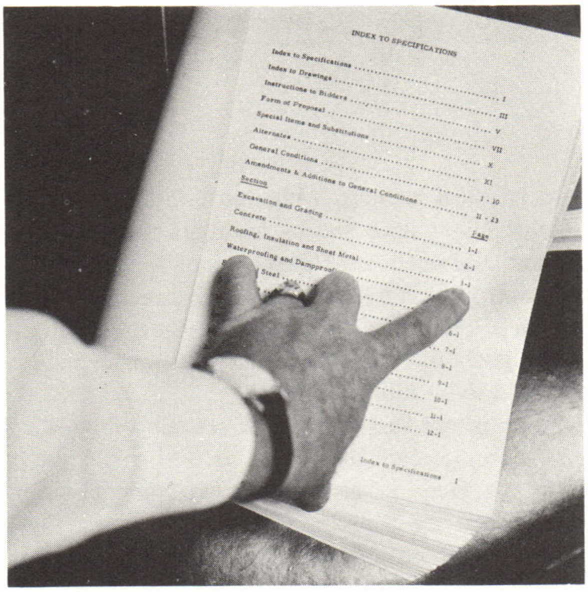
"Architecture is the creation of total environment within which can be accomplished the aspirations of man."

In order to demonstrate to clients the meaning of this definition and the methods we use to implement it, we have spent considerable time studying and arranging our client presentations. Here are some of the things we have discovered—and what we do about them.

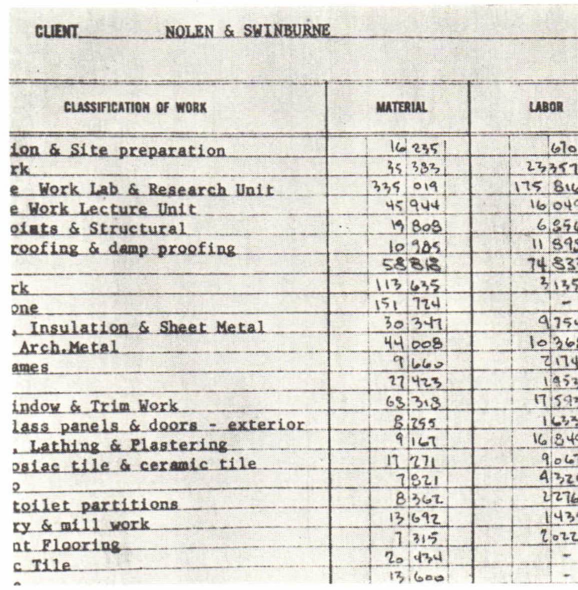
A presentation is the method an architect uses to brief his client on how he is developing the design of the project, either in broad, sweeping principles, or in precise, minute detail. Through drawings, renderings, perspectives, models, and photographs, the architect presents a visual array of material that explains what he is doing. As he arranges this display, he describes verbally precisely what he is doing.

(R-15) ". . . accompanied with preliminary drawings, preliminary specifications, preliminary cost estimates and time schedule . . . (R-20) TECHNICAL DRAWINGS. *These begin with modular coordination . . ."*

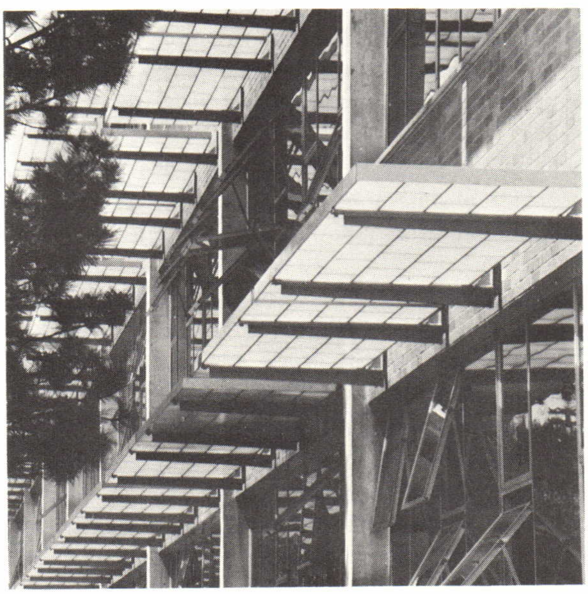
The person, or group of people, to whom the presentation is made don't always get the full picture or explanation. As the group gets larger, several things happen. The near-sighted fellow can't see the drawings at all. The fellow with good vision can't always see what he is looking at because the drawings are too small and are rolling up at the edges; or they're too technical for him; or he doesn't understand shades and shadows. During the ordinary presentation, unless it is very carefully handled, larger groups tend to break down into smaller groups of people, each group discussing various aspects of the whole. The presentation loses continuity. There is always the fellow who doesn't hear well, or there is so much background noise that almost no one in the audience hears well.



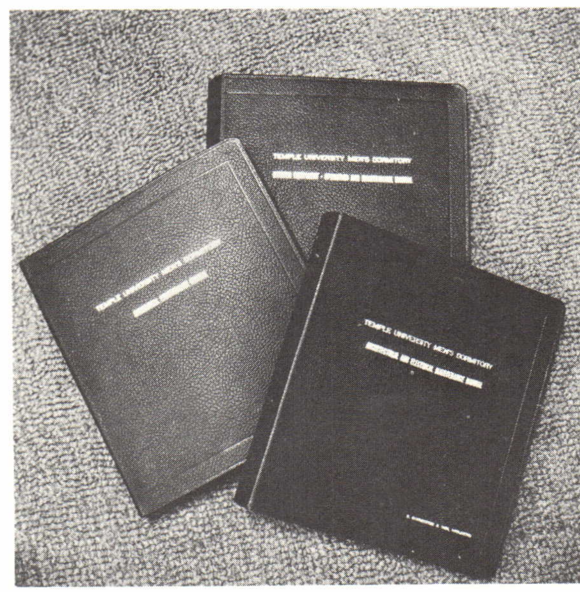
L-28



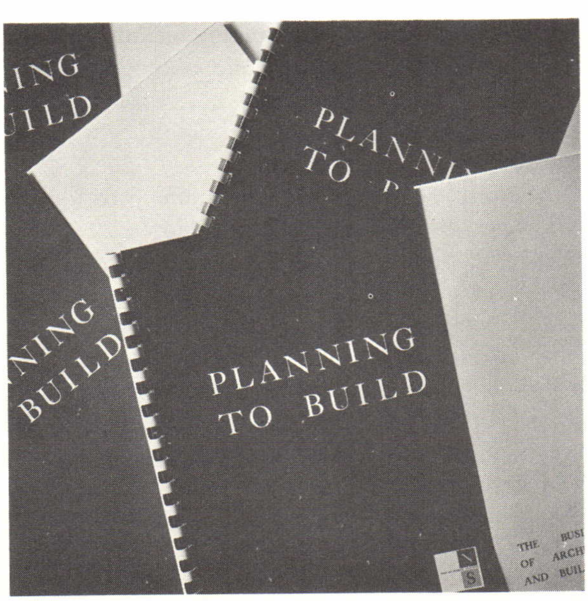
R-23



L-30



L-33



L-35



R-26

The proper architectural presentation should be a work of art in the same sense that the building to be shown should be a work of art.

Communication does not exist between speaker and audience, between architect and client, unless they have similar associations and interpretations of words and visual symbols. A film presentation is an audio-visual concept of word symbols and picture symbols presented in the perspective of the client's needs. It must be carefully informal. It talks about the people in the architectural office that the client will meet—the people who will be in charge of defining and solving the client's construction problems.

(L-28) ". . . we prepare careful and elaborate specifications . . . (R-23) You finally end up with a total cost estimate . . ."

This requires a full command of the English language, a full command of photography, and the ability to deliver both, forcibly and with a dramatic sense of timing and direction, leaving, in the audience, a positive feeling that it has been intimately involved in a professional presentation. It should not be too slick nor too smooth. Portions of an audience can be quickly alienated by speaking down to them or speaking over their heads. No audience likes a "city slicker" approach designed to "take someone in."

(L-30) ". . . This owner knew the cost beforehand and decided he wanted those sunshades . . . (L-33) . . . and we will deliver to you a whole set of maintenance manuals . . ."

Architects use the word "environment" a great deal; and the first thing they should do is provide a good one for an architectural presentation. The space should be comfortable. One should be able to see well and hear well without competition from distracting elements.

The actual presentation itself should be carefully studied and thought out beforehand. It should not be presented hurriedly, with all of the thinking ad-libbed as one goes along. For every single hour of conference time, there should be several hours of preparation time.

The sequence of drawings, data and other material should be carefully studied. The entire presentation must flow in an organized fashion. People must be led and brought along so that they see and feel the architect's reasons for each of his decisions as he moves through the creative process. People should not be allowed to splinter off into small groups to ask unrelated questions or to refuse to follow the thread of the conversation.

(L-35) "In our book 'Planning to Build,' *you will be able to trace the activities you will go through . . . (R-26) The steps in building are complicated at times but management breaks them down into bite-size pieces . . ."*

The material used for the conference should be specifically prepared for each conference. You need *client* drawings, not *technical* drawings; these are two different things. The drawings must speak in terms of ideas, not in terms of draftsmanship. They must make statements that can be read in the back row. Meticulous architectural drawings are not particularly useful for this kind of communication. Full and powerful use must be made of all the graphic arts. It is surprising how few architecturally-trained people are knowledgeable in this field.

In the development of a presentation we establish, first of all, a "shooting script" in which the complete scenario for the production is organized; dummies are made in which sequential information is established, the verbal accompaniment to the illustrations is outlined, and the personalities of all those attending the conference are analyzed and their likes and dislikes scrutinized. Words are carefully selected to lend power and persuasion to

The Nolen-Swinburne presentation to potential clients ends with a selection of about ten slides showing a range of types of buildings done by the firm in the past.

This book list has been used effectively by Nolen-Swinburne in the development of its methods of communicating with clients.

COMMUNICATIONS
Howard H. Dean: Effective Communications
Havland-Janis & Kelley: Communications and Persuasions
Stanley L. Payne: The Art of Asking Questions
William Strunk Jr: The Elements of Style
Irving J. Lee: How to Talk with People
J. Samuel Bois: Explorations in Awareness
Harvard Business Review (Nov-Dec 1957): Looking Around

PRESENTATIONS
Alex F. Osborne: Applied Imagination
Stephen Baker: Visual Persuasion
Paul Smith: Creativity
R. R. Lutz: Graphic Presentation Simplified
Frank Alexander Armstrong: Idea Tracking
William Harvey: Circulation of the Blood
Francis Bacon: Selected Writings

PHOTOGRAPHY
Andreas Feininger: The Creative Photographer

SEQUENCE
Disney & Thomas: The Art of Animation
Standord L. Optner: Systems Analysis

HUMAN UNDERSTANDING
Cartwright & Zander: Group Dynamics
Rex F. Harlow: Social Science in Public Relations
Gustave LeBon: The Crowd
Ashley Montagu: Man: His First Million Years
Wolfgang Köhler: Gestalt Psychology

our argument and minimize unfavorable reaction in the minds of the audience. When this has been completed, the graphic and art work is then carefully selected for development.

The process now hinges on what we call "twin-screen technique of presentation." This technique requires a full knowledge of color photography and film projection. Two screens are used because we never present material in picture-for-picture sequence, but always on a comparative basis. Material on one screen is compared with material on the other screen. You go from A to B while A is still visible, or you show schematic data on one screen and you show design development data on the companion screen. The object always is to compare or to contrast ideas with design or other data.

Montages can be developed. Actual site photographs can be superimposed upon design suggestions. People and activities can be projected in such a way that they are made a part of the design concept. Above all, the impact of image size is important. People in their real roles can identify themselves with the action being shown on the screen. They feel themselves to be part of the presentation, rather than simply observers of it.

The large-screen technique and the continuity of ideas presented in a comfortable environment and darkened surroundings do not permit the audience to interrupt unless invited to do so. The audience is led on from one thought to the next, using a full presentation, and after the entire concept of an idea has been advanced for consideration, the audience may then be invited to criticize, object or approve the solutions illustrated.

Each person can see clearly and hear well, and the ideas and solutions expressed on the screen follow a very, very careful form of presentation. The weeks and months that have been spent in programming, analysis and design deserve no less than this.

The photography used must approach a level far above the amateur class. It is recommended that 2¼x2¼-inch slides be used. Enthusiasts of 35mm may object to such a statement, but slide for slide and task for task, it is our opinion that the two types of slides are not in the same class at all.

After the presentation of films, using the best automatic projectors available, you can then enter into the usual discussions back and forth with the audience, reviewing, checking and rechecking until there is full understanding and agreement among those present. Models can then be brought out and, if necessary, displayed along with the original copy from which the pictures were taken.

The use of visual symbols as a method of presentation has proven to be an exceptional method for bringing the architect's ideas into clear focus for the audience. The symbology of ideas expressed in full color, and in non-spatial diagrams and relationships explored on many alternative bases, make good arguments for convincing an audience that the architect's final concept of the proper solution is the right one. If the audience can be made to see this without interference from its own architectural prejudices, many unnecessary arguments can then be eliminated.

This Series is a Project Financed by Your Supplementary Dues

Comprehensive Architectural Practice
Multifamily Housing

by **Neil A. Connor AIA**
Director, Architectural Standards Division, FHA

The practice of comprehensive architectural services for multifamily housing is closely related to the practice of such services for other building types

Financial and market analysis needed

The days of the patron of architecture are past. Today's multifamily residential buildings are invariably financed with borrowed funds, and the primary incentive prompting the entrepreneur is usually profit, regardless of any secondary motives. This means that sound financial analysis is necessary to ascertain whether this objective can be attained. If not, there will be no building. Preparatory to such analysis, market analysis is necessary to ascertain the extent of the market in the various income brackets, what types of accommodations and services are needed and what the anticipated tenants or purchasers will pay. It is also necessary to ascertain the amounts of housing of various types that are available and the price or rentals being obtained. The architect and sponsor are comparable to a manufacturer who is proposing a new product; they must also, like the manufacturer, ascertain the market, market preferences and taboos, and make a complete and detailed financial analysis.

It can be argued that such investigations are not architecture, and that this phase is properly the work of market analysts, appraisal and real estate specialists, or even the owner or sponsor who, many times, is largely guided by optimistic opinions rather than data and impartial analysis. However, when it is realized that miscalculation in the initial determination of the market, rentals or types of accommodations and services, or in the financial analysis, can result in major deficiencies and, possibly, the failure of the project, and inasmuch as these are directly related to all aspects of the project design, the architect ought to be vitally concerned. No architect relishes the thought, or the effect

on his reputation, of being the designer of an unsuccessful project, even though his fee was earned and no legal responsibility rests on him.

The analysis of the market, the needs of tenants, and the motives or purposes and needs of the sponsor closely parallel the architect's traditional consideration of "use and function" in design.

Similarly, financial analysis brings home the limitations on cost and the effect of costs, as well as the effects of operating and maintenance expense. Financial analysis can also be adapted to save architects useless hours of work and expense in providing an upper limit of cost for physical improvements as a guide in design. This would minimize much of the trial and error approach to design.

Market analysis of multifamily housing

The purpose of market analysis is to ascertain the need for the project, whether there is sufficient demand to provide a continuing supply of tenants, sizes of families, types of housing and services preferred, and the rentals that can be obtained; also, the housing presently available or proposed and at what cost or rentals. All such housing is—in effect—competitive.

Market analysis provides the basis for determining need and the type of housing that must be provided to attract the desired clientele; in other words, it is the basis of planning. In planning multifamily projects, it is of utmost importance that accommodations and services be designed to meet the desires and preferences of the market segment which is to be accommodated. This selection is not entirely arbitrary but evolves from a number of factors, such as that project location must be attractive to the market segment. The cost of land must be in appropriate relation to the budget cost resulting from income expectancy. Size of market segment: a broad market is desirable, that is to say, there must be a sufficient amount of unsatisfied, financially able and willing, demand to justify and fill the project. The types of living units, number of rooms, arrangement, room sizes, finish, equipment and services must be commensurate with anticipated rentals; likewise, the total environment and appearance must be similarly appropriate. Competitive property and existing housing inventory: the project in its essentials must compare favorably with—or be superior to—competitive housing. Feasibility: the architect and proponent must discover that they can provide accommodations and services that will have continued appeal to the market segment at the obtainable rentals, and that such rentals will provide adequate income to meet all expenses and provide a reasonable profit.

Form for market analysis

Federal Housing Administration Form 2401, *Appraisal Data and Project Information,* is a type of data sheet which may be used for market analysis. This form deals with city, neighborhood, site, comparable site prices, comparison grid, competitive rentals, operating costs, taxes and other data, and is indicative of the number of families in various income groups and rental brackets and their general living habits and preferences. All are pertinent to design and operation of successful projects. Actual market investigations would probably be done by market analysts and appraisers in the employ of the sponsors of the project or by their bankers.

The purpose of financial analysis is to ascertain the financial

Financial analysis of multifamily housing

feasibility of a project. This is done on the basis of approximations in the initial stage but must be refined, using careful estimates and known costs, as soon as the project sketches are sufficiently crystallized.

FHA uses a *Project Income Analysis and Appraisal Form* which is designed to record analysis data pertinent to the full valuation of a multifamily housing project. This form, when combined with the *Appraisal Data and Project Information* form and an estimate of reserves for replacement to be required, makes up a complete and comprehensive appraisal report. These data are recorded as estimates of gross rental income at full occupancy, vacancies, operating expenses, taxes, net income and the value found by its capitalization, replacement cost of property (which includes physical improvements, architects' and builders' fees, land and costs inherent in creating a project such as interest and taxes during construction, title costs, legal and organizational fees, etc) for the purpose of arriving at a conclusion as to the fair market value of the property. The value conclusion reached may be the total cost, the amount justified by earnings, or the known market price of an equivalent property, whichever is lowest.

Full and intelligent use of this appraisal form, or some other appraisal device, requires study of appraisal practice and valuation procedures. Most architects might find it better to employ or retain a qualified appraiser, rather than attempt to acquire such knowledge and experience themselves.

Estimations are useful

However, architects can, in connection with preliminary explorations of feasibility, make most useful estimations of the probable relationship between estimations of the cost of the projected physical improvements and the amount of investment justified by its earnings. Obviously, preliminary studies are needed to show how many units can be provided on the site of the types and kinds likely to have continued market acceptance at obtainable rentals. The financial objective is to create these units with the minimum invested capital that will yield a continuing and reasonably safe maximum return on that capital.

Financial Analysis of Hypothetical Multifamily Project

Gross Income		$107,526
Vacancy and collection losses, 7%		7,526
Effective Gross Income		$100,000
Operating Expenses, Reserves and Taxes		40,000
Net Income		$ 60,000
Overall Capitalization Rate, 7¼%		
Value of Property ($60,000=7¼% x $827,600.)		$827,600
Financing, title, legal costs, etc.,	35,600	
Land Cost	75,000	110,600
Amount applicable to all on-site improvements and architects' and builders' fees		$717,000

The "overall capitalization rate" is before depreciation. It must, therefore, return all invested capital and provide return on the capital (interest) also. It may be capitalized in various ways. The amount available for all on-site improvements less the amount required for such improvements as landscaping and utilities other than buildings and architects' and builders' fees is the amount available for buildings.

The justified cost of creating a project is, therefore, inherently related to the net income to be derived from it. The net income is, in turn, the residual amount of the entire gross income of the project less all of the vacancies, operating expenses, taxes, reserves, etc, arising from project operation as a going concern. If the gross rental probabilities, vacancy and operating expenses, etc, can be reasonably estimated, the resultant net income, at a required rate of return, can be projected to an estimation of the permissible cost of the project improvements and building construction.

If the construction costs, land costs (and financing, carrying charges, etc), return requirements, and operating expenses are known or assumed, the effective gross income and the gross income necessary to support a given project can be computed —as in the example on the preceding page—by a reversal of the process discussed.

The illustration in the example does not, of course, necessarily demonstrate the criteria used for the determination of a mortgage amount insured by the FHA, as this may be limited by other criteria such as loan-value ratio (involving value and cost) and statutory limitations (based on per unit or room dollar limits), debt service requirements, and so on.

Operating expenses vs net income

It will be observed that operating expenses have a direct and obvious effect on "net income." Such expenses vary from locality to locality and, more importantly, with the type of project and services rendered. As with all cost comparisons, to be valid, data should be derived from experience with similar types and sizes of projects providing similar facilities to the same general market. Data serving as a guide can be found in publications of various associations; for example, the *Journal of Property Management* published annually by the Institute of Real Estate Management, regularly publishes material on such subjects.

The area of pre-design service described here is sketchy at best and will serve only to suggest a means of minimizing much of the "cut and try" effort expended by many architects. Even if not applied to actually broaden the architect's own services, an understanding of the process and terminology of market and financial analysis should improve the quality of services and relations with realtors and sponsors. It has been said that architects are at a disadvantage in dealing with businessmen; only by learning to deal—as do businessmen—with the cold facts of the economics of building and by becoming proficient in this area can architects overcome this disadvantage.

Quantity take-offs needed

The architect can also expand his services and value within the commonly accepted area of practice in areas such as the preparation of quantity take-offs for projects designed for sponsors. The practice of obtaining bids on the basis of such take-offs would obtain better bidding for the benefit of the owner.

Services in construction stage

Strange as it may seem, many lenders see little value in the architect's supervision, due undoubtedly to certain unfortunate experiences they have had. It must be said, however, that many lenders do retain architects for supervision and these architects perform outstandingly. Further study should be given to the reestablishment of the architect as an active participating member of the building team and to removing all doubt as to his impartiality in his professional actions during construction.

NCARB

Legislation, Registration and Esthetics

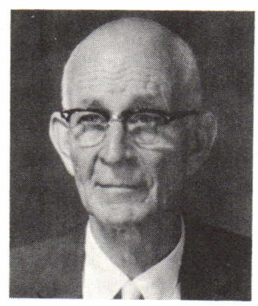
by Shannon Meriwether AIA
Secretary-Treasurer, North Carolina Board of Architecture

► There is considerable evidence that both the architect and the public are generally inclined to use the word "taste" in a careless and thoughtless manner. It would seem improper to say that a person has "bad taste" or "no taste." Taste changes year by year and generation by generation. The "best" taste displayed in the late nineteenth century seems atrocious to more recent generations, but it was the educated and disciplined taste of that time. This situation has occurred so many times in the past that we ought to think seriously about changing our careless use of the word "taste" and start speaking of "educated" and "disciplined" taste as opposed to "uneducated" and "undisciplined" taste. Shining examples of both educated and uneducated taste can be found in all the history of architecture. We may or may not like the ancient styles. However, by thought and study, we can sort out their best and poorest examples, and determine which ones are the result of educated taste and discipline.

We are a young country. But we are growing fast. Our population increases rapidly. Our available land is becoming scarce, especially in our cities. There are more people per square mile, and there is always the increasing problem of our actions affecting our neighbors and our community. In the early days, the necessity for restraining the actions of the individual was not too pressing. He was not too close to his neighbor and his acts had little effect on that neighbor.

Increasingly, as we live and work closer to our neighbors, problems become more numerous and more complex. More buildings become subject to tighter restrictions because of their poor sanitation, endangering the health of the neighborhood, and their structural features become subject to stricter rules, because they may collapse and kill people. Poorly fireproofed structures endanger the occupants and start disastrous neighborhood and city-wide fires. These situations inevitably call for legislation to help bring the bad conditions under control. Most of the legislation of the past, including building codes, the creation of fire districts and the establishment of proper sewage disposal, has been generally accepted by the public. Relatively few protests have developed, and, where suits have been filed, the courts have almost unanimously declared the restrictive legislation to be within the police powers of the governing unit and in the public interest.

Urban zoning probably developed from the attempts by private groups or individuals to restrict certain neighborhoods by sales covenants, thereby controlling the general character and quality of the district. The idea behind such restrictions was to stabilize the appearance and general quality of the district, to the end that a pleasing aspect would be established, and its owners' investments would be protected for a considerable period of time. The fact that some of these restrictions have been declared by the courts to be null and void, because of race issues, means little in this context. The courts, on the other hand, have recognized and approved general city zoning as we know it today. This approval has generally stemmed from the realization that zoning was a proper means to promote the public welfare, stabilize property values, and generally make a more pleasant community.



Shannon Meriwether

A pleasant, stabilized community is more attractive to home-owner, businessman and industrialist. Proper zoning is a great stabilizer of private and public real estate values, especially when well-designed buildings predominate, and where public parks and beautiful open spaces exist in reasonable quantity. It would hardly seem necessary to belabor the point that zoning promotes the general welfare, as well as the health and safety of the community.

But a point should be stressed here. The fact that a city is carefully zoned as to the use of certain areas, and that ample parks and open spaces exist, is not enough to insure stabilized real estate values, and make the city a pleasant place in which to work and live and raise and educate children. What more is needed? The most vital need is to have pleasant housing for the family, for business and for industry. Such a well-zoned community, with a high percentage of well-designed buildings, would be relatively free of the blighted areas

which, bringing poor returns on the investment, create a serious tax problem, with an unfair burden on those areas with the acceptable buildings which have stabilized values. Good city planning and good transportation are also necessary, but we are not concerned with them here.

We are concerned that, with all our slum clearance, town and regional planning and proper zoning, we have still many unacceptable buildings which definitely do not promote the public welfare, nor help stabilize real estate values. We have yet to enact laws pertaining to esthetics which are generally acceptable to the public. We have recently noted in the architectural press professional objection to the inclusion of esthetics in the required examinations for architectural registration.

As we have already noted, esthetically satisfying building design is of vital importance to the quality of a community, to the satisfactory growth of the community, to the stabilizing of real estate values, and to the promotion of the general welfare. Its dollar value to the community is high. In these changing times esthetics may well be considered even more important than the earlier recognized values of safe structures, safe sanitation, and relative protection against fire. For one can have all these earlier dangers under control, and still have a town so unsatisfactory because of the lack of esthetically satisfying buildings, that it soon becomes impossible to attract and keep the type of citizen who is the motivating force behind growth and stability of business and industry. Who will argue that a shoddy, ill-designed building will not tend to lower real estate values in its immediate vicinity, and who will contend that the promotion of a town by its Chamber of Commerce will not be helped by the town's reputation for visual and other beauty? Whether it needs to grow in numbers, or just become a better town, beauty is a vital element.

How are we going to accomplish this beauty, this investment in the stability and esthetic future of the community? Certainly it would be unwise to attempt to set out any definite set of rules about the design of our buildings. There is no satisfactory jury, nor any agency which can be allowed to judge the esthetic acceptability of our structures. The attempt to have fine arts commissions judge great public buildings or monuments has largely met with failure or dissension. Such is the working of democracy that any legislation to actually dictate or control the design of buildings is almost surely doomed to failure. But since more and more of our buildings will be designed by registered architects, the public can expect of them educated and disciplined taste.

We insist that our doctors and dentists, our engineers and our attorneys take a state examination to determine their competence to practice. The architect must be responsible for the safety of his buildings, but he can hire a professional engineer to assure him of the safety of his designs. He can be held responsible for engineering competence, when he is examined to determine that competence. But who is to be responsible for his design competence, if not a board of competent architects, men trained in and recognized by the profession? In spite of some thinking to the contrary, the boards of the fifty states, which grant registration to applicants to practice the profession of architecture, are not prejudiced, nor are they attempting to restrict the practice of architecture, except in so far as they want to see the public welfare properly served, most especially in the field of esthetically satisfying buildings.

The public has a right to expect and is increasingly demanding design competence from the architect. The only way an architect can become a satisfactory designer is by training under good college professors of architecture, who have also been educated in design, and have a high standing in esthetics, or by training under a master. The masters are few and far between. A certain amount of apprenticeship is also required in the complexities of the building art. But if the promotion of the public welfare through good design is a function of the architect (and we believe this is demonstrable), his ability to plan and design good buildings must be proven to the satisfaction of his peers before he is allowed to practice. His taste should be both educated and disciplined. This educated taste is needed in almost every community, if that community is to survive, to say nothing of its growth. Uneducated taste and undisciplined design are costly to the community, and to the individuals in it. The architect is the only person who can be held responsible by reason of his education and his training. ◄

NCARB Exhibits at Miami

Architects attending the AIA Convention will again be afforded the opportunity of viewing an exhibit of design examination drawings from the various states that are assembled by the NCARB Committee on Exhibits for showing during posted hours while the NCARB Convention is underway on May 10 and 11, 1963.

Since the work of the applicants for state registration as shown by their solutions of the design section of their examinations offers an indication of the design to be expected from these men in their future practice, this exhibit should be of interest to all architects.

To Young Mr AIA



► Late in December I received an inspiring letter from one of our younger members. He explained that he had to wait till the last minute to send in his dues because running a small office was something of a struggle. Reminded me of the story one of our famous members once told me about his start in the 1930's.

Now, the inspiring part about this 1962 letter was that the young architect said he was optimistic about the future of the AIA and devoted most of his letter to specifying what he would like to see us accomplish. It was a letter in terms of "we"—not "you"—do it.

Who is young Mr AIA? Right now he is any one of thousands of young men who might be a beginning practitioner, an employed architect, or a junior associate in a firm. One thing is sure—by 1980 these men will be running the AIA.

I would like to remind them that the present crop of AIA leaders is young in mind and spirit. That's why they quickly took up the challenge of the Committee on the Profession's two reports which took a "long hard look into the future" and spelled out how the profession and the AIA must change and grow. That's why they planned and implemented the action programs now underway and risked their popularity to get supplemental dues to pay as we go. They are thinking a great deal about what will benefit today's young architects, from national convention programs to everyday programs.

The implementation of new activities has created a heavy workload for Board members and committeemen as well as staff. So much so, in fact, that a Board committee headed by Bill Eshbach of Pennsylvania is giving much study to the evaluation, priority and expediting of major programs and projects. One objective is to see to it that no manpower is wasted on a low-priority project that drifts along in low gear.

Many of the new programs are essentially long-range and may be expected to generate results more likely to reach a climax of value for the next generation of AIA members rather than this one. On the other hand, we must keep hammering away at short-range objectives which will benefit the profession this year and next.

When many tasks are underway there is always danger of getting lost in close perspective to the work mountain unless objective are constantly reappraised. Here in simplest terms are descriptions of some of our major activities and their objectives:

Comprehensive Architectural Services—to teach our members how to meet the needs of today's clients more completely and thereby get more business.

Urban Design—to prepare our members to expand their competence into this field.

Public Relations—to educate the public and the press to a better understanding of architecture and architects' services.

Education—to reshape and extend architectural education to produce the full range of competent individuals needed by the profession.

Government Relations—to get better legislation affecting building, better laws affecting practice, and better architectural design in the huge volume of public construction.

Research—to make architectural research a part of the over-all research effort of the building industry.

Architectural Design (our newest activity)—to raise the level of design in practice and public appreciation of design.

Structure of the AIA—to create the strongest possible professional society for the greatest possible number of registered architects.

New Headquarters Building—to build for future growth of the Institute in a building that symbolizes the highest talents of the profession.

There is a gradual, steady transition from one generation to the next in the top ranks of the AIA, so apparent to one in my job. Two "boys" who were once students in my design classes at Illinois have become members of the Board. At the 1962 convention a group of young practitioners almost stole the show. Younger men are filling in behind them.

Keep your eye on what we are doing, young Mr AIA, by reading what we print. Make your voice heard and your energy felt in your chapter. Together we will make the AIA what you want it to be when you take the reins. W.H.S.

The Architectural Student Abroad

by **John Kelsey,** *Immediate Past-Secretary, ASC, AIA, Final-Year Student at Princeton University*

► After having spent a summer in Europe with thousands of other American students and after having observed the American tourist generally, I became aware of an immediate problem: that the majority of Americans never really "see" Europe. It is a terrible thing when one goes to the trouble and expense of such a trip and doesn't make the effort to fully appreciate what is before him. For the architectural student this is a crime. A man who is to spend the rest of his life creating other people's environments must learn an awareness, must learn to "see" new environments.

The preparation for the trip, even before leaving the States, is very important. There is nothing worse than walking into a city "blind," not knowing where one is or where to go. Long sessions at home poring over maps and guidebooks are invaluable; it may save several days of precious time when one gets there. One should learn the monuments and principal attractions and where they are in relation to one another. From this preconceived structure of the city it is easy to orient oneself at all times and feel no hesitation to explore. Guidebooks are good for giving a brief outline of the monuments.

Just what one should see is of course up to the individual, but some general comments might be made. I think it a great mistake to race from one architectural monument to another, being very holy about "wasting" time on other things. To really appreciate a building one must think of it as a solution to many complex problems, not only structural and functional but sociological and psychological as well.

One should never lose contact with the people of a region and the character of the life they lead. Customs and traditions change radically from place to place and naturally have a great influence on the local architecture. A real effort should be made to communicate with the people. Try their language, eat their food, drink at their bars, observe their habits and daily routine. Walk as much as possible. I think many Americans fail to see most of Europe because they are going too fast. By walking off the beaten path one can observe and grasp much better the pace and scale of an environment. One is also more likely to have the unusual, amusing little experiences which really give one a feeling for the people.

One should carefully observe how a people approaches the business of architecture. What type of construction and materials are used and why! Watch local craftsman at work: this especially will be a revelation compared to the impersonal type of work we are used to. Try and see both the old and the new buildings, both the distinguished and the ordinary, both the urban and the rural.

To really understand a building one must see it in operation: the market place in the early morning, the opera on a big night, a cathedral at High Mass. Don't try to go too quickly or to see too much. Some buildings take hours or even days before one can begin to understand them.

Seeing, observing and feeling is a very personal and often emotional experience. One should make an effort to keep it so. Try to travel in very small groups or even alone so as not to be influenced by group reactions or impressions. It is important to constantly be aware of one's personal reactions, to be objective about them and record them. The camera is a wonderful technological development but often too impersonal. Too many Americans see half of Europe through their camera viewer and the other half at home on the screen. Sketching, painting or even writing one's impressions is much more meaningful.

Keep your eyes open at all times, there is always something to see. Really seeing is not easy, it is an effort, but one that you will always be glad that you made. Abbé Bolle-Reddat, the chaplain of the chapel at Ronchamp aptly sums the subject up in his instructions to the tourists at the church, "Do not allow prejudice or preconceived ideas to come between you and a work of art. You must see it, and in order to see it, *Look!*" ◄

Library Notes

Gifts to the Library, 1962

MISS DOROTHY M. ALBERS
"Handbook of Architectural Practice," 1949 ed

"AL-MOWAZAFF" MAGAZINE
Its supplement "Faces of the City" by Dr Saba G. Shiber

AMERICAN ACADEMY OF ARTS AND LETTERS
Its "Proceedings"

AMERICAN INSTITUTE OF STEEL CONSTRUCTION
Set of slides on "Structural Steel Framing"

AMERICAN IRON AND STEEL INSTITUTE
"The Agadir, Morocco Earthquake. February 29, 1960"

LEOPOLD ARNAUD FAIA
Two books and five pamphlets

HAROLD A. BEAM AIA
Michigan Society of Architects, "Official Handbook," two volumes, and "Weekly Bulletin," five issues.

WALLACE P. BEARDLSEY JR, AIA
Two volumes

MRS GERMAN BESTELMEYER
Biography of German Bestelmeyer, by Heinz Thiersch

BOLT, BERANEK AND NEWMAN, INC
"Acoustics for Music Performance," by Russell Johnson

BOND VAN NEDERLANDSCHE ARCHITECTEN
Guidebook of architecture in Amsterdam

THE BROOKINGS INSTITUTION
Three copies of its "Housing the Aging: Research Needs"

JOHN EMMETT BURKE
His "Planning the Functional College Library"

HAROLD BUSH-BROWN FAIA
"World's Who's Who in Commerce and Industry"

CLEVELAND CHAPTER AIA
Gift to the Octagon Library Fund in memory of Edward C. Kemper, Hon AIA, late Executive Director

FRANK W. COLE AIA
Twelve volumes

AMBROSE C. CRAMER AIA
Copy of an 1858 indenture of apprenticeship to an architect

THOMAS H. CREIGHTON FAIA
Progressive Architecture, Jan-June 1962

JOHN DESMOND AIA
Slide

C. O. GJERLØV-KNUDSEN
His "En Kirketype"

FRANK E. HALDEN
Eight books and two magazines

WILLIAM M. HAUSSMANN AIA
"Leon, Burgos and Salamanca"

HHFA LIBRARY
Its "Subject headings used in the catalog of the HHFA Library"

HERBERT H. HOLLWEG
"Dental School Planning"

LEE HUBBARD
Two pamphlets

INDIANAPOLIS HOME SHOW, INC
Its "Indianapolis Home Show Architectural Competition," 1962

RUSSELL JOHNSON
Two of his articles on acoustic design

HOLWAY R. JONES
His "City Planning: A Basic Bibliography of Sources and Trends"

MORRIS KETCHUM JR, FAIA
Brochure

GEORGE S. KOYL FAIA
"American Architects Directory," 1962, edited by him

M. LOUIS KROMAN AIA
Three volumes

MRS BETTY M. LAWRENCE
One magazine

JOHN T. CARR LOWE, HON AIA
Four pamphlets

JOSHUA D. LOWENFISH AIA
"Research Study in the Cost of Housing," vol III

MCGRAW-HILL COMPANY
File of "Architect and Engineer," 1905-1957

MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Its "An Information System for Urban Planning"

GEORGE B. MAYER FAIA
Gift to the Octagon Library Fund in memory of Edward C. Kemper Hon AIA

H. H. G. MOODY FRAIC
History of the College of Fellows of the RAIC

EDWIN BATEMAN MORRIS FAIA
His "Dallas, Texas, 1962"

MOUNT VERNON LADIES' ASSOCIATION OF THE UNION
Its 1961 Annual Report

ARTHUR MUSCHENHEIM AIA
His "A Guide to Chicago Architecture"

NEWARK: CENTRAL PLANNING BOARD
Its "Re: New Newark"

MR AND MRS JOHN OSMAN
Four books and three pamphlets

E. A. PAWLEY AIA
"Slums and Suburbs," by J. B. Conant

JOHN PEASLEE
105 volumes from the library of Horace W. Peaslee FAIA

RICHARD W. E. PERRIN FAIA
His "Historic Wisconsin Buildings" and five of his articles

G. E. PETTENGILL HON AIA
One volume

WALTER PETTY AIA
Xerox copies of documents pertaining to the A. Hall mansion

ROBERT J. PIPER AIA
"Kunst am Bau in Hamburg 1947-1958"

PRODUCERS' COUNCIL, INC
Film strip on Air Conditioning Seminar

PROVIDENCE, RHODE ISLAND: CITY PLANNING COMMISSION
Its "Downtown Providence, 1970"

ROBERT L. RALEY AIA
DuFais drawings for the New York Public Library competition

EARL H. REED FAIA
Study of the Republic Building, by Skidmore, Owings and Merrill; lithographic views of Indianapolis

JONATHAN RING
Twelve volumes through the kindness of C. Gwathmey AIA

SAINT ALBANS SCHOOL
"The Cities of America," by Pinckney Alston Trapier

SEATTLE CHAPTER AIA
Victor Steinbrueck's "Seattle Cityscape"

JOHN E. SHACKELFORD
Two publications of Marble Institute of America

SKIDMORE, OWINGS AND MERRILL
Louis Skidmore's memorial volume on William Emerson

MISS THELMA E. SMITH
"A City Speaks"

MISS MABEL STERNS
One issue of "Shells and Their Neighbors"

GORHAM P. STEVENS HON FAIA
His "Concerning the Impressiveness of the Parthenon"

SVAZ ARCHITEKTU V CSSR
Its "New Techniques in Architecture in Czechoslovakia"

USAID MISSION TO CHILE
Four of its publications

WOLF VON ECKARDT HON AIA
Two volumes

H. H. WAECHTER AIA
His "Schools for the Very Young"

JOSEPH WATTERSON FAIA
Ten volumes

PAUL WEIGEL FAIA
"The Creation of a World Center of Communication" by H. C. Andersen and E. M. Hebrard

AMANICO WILLIAMS HON FAIA
Biographical data and materials

MRS DANIEL F. WOLCOTT
"A Day in the Old New Castle" and other leaflets on New Castle ◄

Book Reviews

Building Failures. Thomas H. McKaig. New York, McGraw-Hill, 1962. 256 pp. 6″ x 9″ $10.75

This is an initial effort, so far as this reviewer knows, "to tell the story of some structural failures for the benefit of those people whose livelihood may be affected by the lessons to be learned from them." The reader will find that author McKaig's text leaves him with considerable uneasiness and anxiety—uneasiness over what we do know about building failures and the multiplicity of possible contributing conditions, and anxiety over what we have yet to learn about the prevention of failures.

Some two hundred instances, the majority occurring during construction, reconstruction or alteration, are grouped under ten categories: concrete, steel, alterations, foundations, negligence and ignorance, lack of precedent, old buildings, and overload, wind-fire-explosion, minor and incipient failures, and miscellaneous construction failures. All cases have occurred since 1900 with the exception of a few classics such as the Tower of Pisa, and each contains a nub of information applicable to contemporary building practices.

Amazing stories of failures, and in some instances recovery, are told. An eight-story reinforced concrete hotel in Michigan "melted" into a pile of rubble over a thirty-hour period in January 1924; a German office building slid downhill in 1960 due to slippage of layers of subsoil and was saved by successful "riveting" of these substrata layers; in 1906 two Tunisian warehouses tipped to an angle of 25 degrees from the vertical and were righted. More important, however, the author cites many examples of seemingly unimportant details that add up to potential or actual failure and, in several instances, discusses their successful correction.

Architect-Engineer McKaig is obviously indebted to the periodicals serving the construction industry, particularly the *Engineering News-Record*, for the details of many failures. As the same time, he relies on personal records in his capacity as an investigative consultant. The text, therefore, has a personal and general reporting touch that makes it highly readable and easily understood by non-technical persons. Those familiar with Mr McKaig's work will recognize his fine hand in organization of the book and in his simple explanation of technical details of building failures.

The construction industry is indebted to the author for this first effort to organize discussion of a too-little understood subject. We can hope that it will lead to the establishment and refinement of the science of building failures. RJP

City Planning: A Basic Bibliography of Sources and Trends. George C. Bestor and Holway R. Jones. Sacramento, Calif, California Council of Civil Engineers and Land Surveyors, 1962. 195 p 11″ x 8½″ $3.00

Although a revision of a work which appeared in 1957, this is essentially a new work considering the changes that have been made and the fact that the number of entries has been more than doubled from 417 to over 1000. The scope has been broadened by eliminating some "local" materials and by including report examples from several parts of the United States and Canada. To reflect changes in city planning the classification scheme has been modified.
The bibliography is divided as follows:

- I On the nature and form of cities
- II The history of cities and city planning
- III Contemporary city planning: nature, function, process
- IV Education for planning
- V General bibliographies

The third division is subdivided into seven main sections including city planning analysis; elements of the general plan; analysis and design; and effectuation: translating the plan into action. Among some of the subsections there might be cited as examples population analysis; circulation; community facilities; housing and urban renewal; zoning.

A principal contribution of the authors are the annotations, describing the scope of the works cited. These add greatly to the usefulness of the list. Detailed indexes are included, as well as lists of addresses and periodicals.

In all a most useful and valuable bibliography which well merits the word "basic" that has been applied to it. GEP

The Works in Architecture of Robert and James Adam. Chicago, Quadrangle Books, 1959. 170 pp 8½″ x 11″

The work of Robert and James Adam certainly need no introduction to architects, no matter whether they be forward-looking architects or backward-looking architects, but possibly they do need a new format. The present edition contains reprints of all the plates from Robert Adam's original "Works in Architecture," to which have been added thirty-six pages of well-chosen photographs and twenty-four pages of text by John Swarbrick FRIBA.

As Palladio took the work of Brunelleschi and Alberti, and of the ancients before them, and created an original style from these basic ingredients, so the brothers Adam took the work of the master Palladio, plus newly-researched antique elements, and through the magic of their creative imagination and exquisite taste, evolved something new and fresh and beautiful. A careful study of their technique of adaptation and daring new uses of traditional motives might well repay study today.

Robert Adam and His Circle. John Fleming. Cambridge, Harvard University Press, 1962. 394 pp illus 5¾″ x 8¾″ $7.50

There has long been a lamentable lack of biographical information on the Adam brothers, very little having been known of their private lives. The chance discovery of several bundles of letters written by Robert and James Adam from Italy, among family papers in Scotland, was thus a windfall. The author searched further through archives in England and Scotland to find firsthand evidence of the brothers' early days and family background. The result is this absorbing book, which reveals not only their professional lives but also their full social careers, closing with James' return from Italy in 1763. The author plans a companion volume in which he will "describe their works

in detail and show how the style they had evolved in Rome was developed and found expression in the many country-houses and other buildings for which their names are famous."

Using the letters as a warp, the author weaves a richly-colored tapestry based upon the first thirty-five years of Adam's life—his childhood and education, his apprenticeship to his father (an architect), his travels in England and his first designs there, and finally his embarking from Edinburgh on "the grand tour" in 1754, accompanied by his brother James and their old manservant Donald—"Donald the King of Sleep." His four years of travel are detailed at length, with accounts of the many friendships he formed there, notably that with the brilliant French architect Clérisseau, who taught him much about architecture, drawing and perspective; and Piranesi, with whom he travelled and sketched. Always sociable—and not above social-climbing, Robert's letters, and James' also, are full of chatter and gossip about well-known personalities of the time. Back in London, Robert had a difficult time setting up in the practice of architecture, which in that day was so largely dependent upon finding wealthy, and if possible noble, patrons who were sufficiently cultivated to enable him to express himself in the new style he had developed while in Rome. For architect, scholar or layman, "Robert Adam and his Circle" should provide very entertaining reading. JW

Medical School Facilities: Planning Considerations. US Public Health Service, Washington 25, DC, Government Printing Office, 1961. 56 pp. 7¾" x 10¼" illus. paper. 45¢

Medical School Facilities: Planning Considerations and Architectural Guide. US Public Health Service, Washington 25, DC, Government Printing Office, 1961. 185 pp. 7¾" x 10¼" illus. paper. $1.00

Reviewed for the *AIA Journal* by E. Todd Wheeler, FAIA, former Chairman of the AIA Committee on Hospitals and Health

The literature on planning a medical school is practically nonexistent and hence this work stands out like a mountain on the plain. Even if this were not so, it must be admitted that "Medical School Facilities" makes a major contribution to the subject and one sorely needed.

The book has been issued by the USPHS in two volumes, one of fifty-six pages with the subheading "planning considerations," and the other of 185 pages, subtitled "planning considerations and architectural guide." They are identical for the first twenty-eight pages and differ in the remaining chapters largely in detail presented. This review will be concerned with the longer volume which is the one architects should use. The authors include selected USPHS staff members directed by a joint committee of the AMA and the Association of American Medical Colleges. Committee members included four doctors (deans of medicine), a hospital administrator and a business manager. Our profession was represented only on the staff.

There have been three major reviews of medical education in this country, the first and most revolutionary in its effect being the Flexner Report of 1910, then the Weiskotten Report of 1939 and most recently the study by Deitrick and Berson of 1953 titled "Medical Schools in the United States at Mid-Century." A cogent statement of purpose is found in Dr Raymond B. Allen's modest publication of 1946 titled "Medical Education and the Changing Order" issued by the Commonwealth Fund, but in all of these one looks in vain for data on physical plants. So we architects should by all rights welcome "Medical School Facilities" with grateful attention and acceptance.

Yet I expect we shall hear adverse reaction from those in our profession who concern themselves with this field. Our number is not great because there are only eighty-five medical schools in this country and even if all twenty allegedly needed new schools were to be built in the next ten years at a unit cost of, say $30 million each, that would still represent only $60 million of construction per year for the entire country, not a large market by any measure. Yet for the health of our nation it is vital that these facilities be planned both functionally and imaginatively, functionally to be efficient by known standards of medical education and imaginatively to be able to meet the changing patterns of education we may expect to encounter in the next two decades.

"Medical School Facilities" in its first five chapters (twenty-eight pages) describes succinctly the organization and functioning of a typical medical school with an entering class of sixty-four students expansible to one of ninety-six students. This is the way it is done today and there can be only high praise for the program approach and the thoroughness of what is essentially a summary presentation. The sections which follow these give in full detail material on all departments for both sizes of school and for both the conventional basic science teaching labs and the relatively newer multi-discipline basic science labs. Each basic science department is described at length with net-floor-area schedules given for all departmental spaces. The clinical science departments are covered less thoroughly because of their greater variability, and the teaching hospital is described largely in its differences from the non-teaching hospital. Outpatient facilities are fully covered and supporting departments are outlined. At the end there are compiled floor-area schedules for the entire school in its four combinations, truly a comprehensive coverage, a gospel for years to come.

Reflections on the Human Venture. Hadley Cantril and Charles H. Bumstead. New York, New York University Press, 1960. 344 pp 6½" x 9½" $6.50

A wise and charming book of selections from the writings of philosophers, poets, playwrights, novelists, scientists and psychologists. Any architect really concerned with the behavior of the people he plans for will find valuable insights herein. Cantril, a noted leader among psychologists of the Transactional school, is concerned with the whole man in complete relationships.

This is a strong counterploy to C. P. Snow's contention that the sciences and the humanities are immiscible—Cantril and Bumstead show how much the "two cultures" must depend upon each other. They refer to these collected readings, with excellent interconnecting texts of their own, as possibly "guideposts for enhancing the quality of living." The several-page quotations from Einstein, E. B. White and James Thurber are beyond all price. EP

Editor's Page

Observations on Pittsburgh

Without setting myself up as a critic of architecture or planning—or as a properly certified critic of anything else, for that matter—it might be of interest to put down the observations of what might be called a "qualified observer" who, from time to time, has occasion to visit certain cities in our great and growing urban nation.

These will be by no means observations "in depth," to use a currently popular phrase. They will be strictly surface observations, skimmed off the top, as it were, as I flit about the downtown area on three to five days of intensive business calls. No study of the history, economics, geography, ecology or planners' dreams of the city and its region—just what I see from a taxicab and a hotel window.

What a site for a city! It is almost as though it had been chosen for beauty and amenity, rather than for, I presume, its advantages from the standpoints of military strategy and commerce—the meeting place of overland trails and water-borne traffic. The level triangle formed by the confluence of two big rivers, forming a greater river, ringed by bluffs and hills—here was an opportunity for a river-oriented city; but like most American riverside cities, Pittsburgh turned its back on its rivers and left their banks to the railroads, industries and waste. Although the city is surrounded by bridges, one is seldom aware of the rivers except when scurrying across one—and except from an upper window in one of the Gateway Center buildings. From there, the view is stunning—a stunning display of wasted opportunity.

Fringing the top of the rocky bluff across the Allegheny River are dirty and dilapidated two-family houses built in the early 1900's. Now actually, this is, in a way, as it should be; there should be houses with two-story porches up there facing the view across the city, and they certainly shouldn't have to be the homes of the wealthy. Choice sites should be available to everybody, but these have certainly not been utilized to the fullest. Need this crowning site be covered with shabby, run-down rooming houses, as these certainly appear to be? So far, it would appear that nobody has attempted to capitalize on the dramatic sites of Pittsburgh, not even Conrad Hilton—a car-carrying funicular railway would get people up there from downtown in a matter of minutes. Now all there is is a flashing electric sign promoting "WTAE Channel 4." The city has done well to keep the billboards off the slopes, anyway.

Poor old Fort Pitt, the nucleus and raison d'etre of the Golden Triangle. It is now a tiny and forlorn little triangular plot of ground, sunk down and surrounded by looping expressways and bridge approaches—truly a pit. It would appear that the tip of this triangle was planned entirely by the highwaymen, with no regard for the very historic site the city was trying to restore; surely architects or planners would have given the city's birth-spot more consideration. And as for the Golden Triangle itself—a fine conception, a noble clearance project, but such mediocre architecture. However, in this new part of the city, there is space—and light, and trees, and plazas and fountains—and off-street and underground parking, and all that is good. All of which just goes to prove something I've been becoming more and more aware of lately, and that is that in an open and free-wheeling environment, a grouping of buildings according to an over-all plan, the quality of the architecture of the individual buildings is secondary to the ensemble, the over-all effect—good architecture certainly helps, though!

Curtis and Davis' new IBM building, still under construction, is the only fine and daring piece of new architecture I saw in the downtown area; the building fascinated me. Everything else is either cheap and mediocre or old and crummy. I suppose I should make an exception for SOM's building in the Triangle; it *is* fine in its way, but it unfortunately blends too readily into the melange of ordinary buildings surrounding it.

The rest of the downtown is just typical "city—USA," narrow old streets, dirty sidewalks, grimy old buildings with gimcrack "modern" first-floor store fronts and dirty windows above. Nothing to delight the eye or to rest the feet. Even Mellon Square, splendid effort as it was, is like a Japanese pebble garden at the bottom of a well. But it is not all bad architecture, for Richardson's Allegheny County Jail is still standing. What a delight to pat those rugged old rustications, worn and begrimed, but incredibly massive and solid after nearly eighty years; what a contrast with patting the thin marble veneers and the quivering aluminum skins of some of the new buildings! Pittsburghers, keep that swinging steel ball away from your greatest architectural treasure! And while doing so, why not trim up the sidewalks and curbs around the building and give it a good sand-blasting? A really good old building can stand the test of having its face lifted—look at the old State, War and Navy Building in Washington, for instance. And on the alley side of Sullivan's Stock Exchange building in Chicago you can see where they experimented with cleaning, but abandoned it—the terra cotta is too far eroded by the city's sooty acids. But the Jail's massive stones can take it!

Architecture for the College Campus

by **Ernest J. Kump FAIA**

This paper was presented at the seventh Annual Summer Workshop of the Council for the Advancement of Small Colleges, and is second of a series of workshop papers to be published in the Journal from time to time. A report on the workshop, "Memo to the Small College," is now in the final stage of editing and will be ready for spring distribution, according to Dr Alfred T. Hill, Executive Secretary of CASC. Excerpts from several papers will be included

► With the attention of the inhabitants of this planet riveted upon the unprecedented scientific and technological achievements being advanced each day, I would like to attempt to amplify, somewhat, a small but important voice in this wilderness. The voice of the spirit of man: how it applies to architecture, and what architecture can mean in terms of a campus plan or an environment for learning and doing.

It isn't an easy task to divert the attention of people away from technical gimmicks such as electronic brains, pushbutton teaching devices, disappearing soundproof partitions, artificial weather machines and three-dimensional color television with electronic ray guns for changing programs at a distance. However, I am going to try. It appears that there is a great deal more interest shown today in teaching machines rather than in teachers; in data-processing machines rather than bookkeepers; in technical efficiency and function in buildings rather than their character and esthetic quality: in short, science rather than art.

Machines for Learning

As a result of this focus of attention on science and technics, the character of man's spaces, or architecture, is resulting in an environment that is sterile and antiseptic. Our buildings—including homes, office buildings and schools—are looking more and more like sterile clinics, laboratories or light industrial plants. And it's becoming ever more difficult to know from their appearance just what buildings are. Individual homes are looking more and more like clinics, schools like industrial research plants and office buildings, housing projects like massive impersonal beehives. In other words, buildings today are becoming esthetically sterile machines—machines for commerce, living, learning and worship. But efficient machines they are at that, with standardized slick parts for production economy, incorporating controlled physical environment, tax depreciation advantages and easy maintenance! In other words, we are creating remarkably efficient machines but a faceless and impersonal architecture devoid of individuality of expression with respect to the roots and traditions or the nature of its surrounding environment—an architectural desert.

This, of course, is a statement of a *generalized* trend in architecture today. While there are notable exceptions, the impact of this course of thinking is having a dominant influence in the design of educational buildings and campuses throughout the nation. This, then, poses an important question. Can we have school campuses that contain not only the latest scientific advances in technology and instruction, but which can also express, in these spaces for learning, an environment that is meaningful in terms of *human* values—an environment that responds to the heart as well as the brain of man? I think we can. It is my experience in architecture that just because a school building complex, for example, is functionally efficient, technologically modern and structurally flexible and adaptable, it does not necessarily have to look like an antiseptic clinic or a light industrial plant, as many educators as well as architects are led to believe. We *can* have our cake and eat it too.

Now, why is this important? Why doesn't a rational or scientific solution alone suffice for our building needs? To answer this, let us wipe our mental slate clean and explore the nature of the importance of this facet of architecture with respect to the aspirations of man. To do this one must probe the nature of architecture itself.

Architecture is not merely science, for if such were the case we would dispense with architects and engineers, and scientists would suffice to design our buildings or physical environment. Architecture does, however, combine science and art to achieve its purpose. The definition of architecture can be said to be the expression of feeling through ordered space environment for the social uses of man. And therefore architecture is our most important art. For it is not compulsory that one read literature, listen to music, observe painting or ballet or witness a drama. These we can experience or not, as we wish. But man cannot escape his space environment, for he is a creature of space. Man lives in homes, worships in churches, is entertained in theaters, works in offices, shops in stores and learns in schools. Architecture will ever be with us, yes, even unto the end of the earth. (And this is true even if atomic science makes possible such termination of this earth with little more effort than that needed to push a button.)

Form, Function and Feeling

The true purpose of architecture is to create, in a physical environment, an expression of feeling to which man instinctively responds. We expect a building to function properly, to be efficient and economical and to provide the proper rooms or spaces, fixed or flexible. This is basic and is made possible by our great knowledge of technology, science and engineering. But we also expect more. We also





Foothill College, Palo Alto, Calif; Ernest J. Kump FAIA and Masten & Hurd, Architects Associated. Winner of AIA's First Honor Award in 1962, this campus is already imposing in its mellowness and compatibility with its site. Note extended eaves in photo at left, forming protected walkway. Photos: Morley Baer (left), Karl H. Riek (right)

expect that the form or manner in which the physical parts and spaces are arranged will have a result that we feel is harmonious with the function of the building, with what that function means symbolically as related to our traditions, roots and values, and with the physical personality or character of the neighborhood or region in which it is constructed. In other words, to paraphrase Louis Sullivan, "In architecture form follows function, but to this we must add fitness and feeling."

As science is objective and the means, architecture is subjective and the goal. Architecture cannot be reduced to a rational process or formula for its proper solution or evaluation, as can the scientific processes. As a result, architecture is a most powerful force which constantly mirrors and manifests the values of man. In his heroic struggle through history architecture always expresses what man believes.

Through architecture, we can create in our physical environment limitless expressions of mood and feeling. An architect can create spaces that are exciting, serene, sophisticated, dignified, informal or inspiring. In fact, architecture can create and duplicate for human experience any mood or feeling that the other arts, drama, music or literature can convey to their auditors.

If what I have said establishes architecture as primarily an art, establishes its validity as such and gives us a cue to its true nature, what then is its application to educational and campus planning? And how do we evaluate its results? With respect to this question, the school plant problem is an especially significant example to use, since a school is a microcosm of man's total environmental social needs. A school campus encompasses practically every space or building function necessary in man's social complex regardless of site or scale, just as well as a village, town or city. For in the school campus we have assembly, dining, recreation, research, living, library, maintenance, art, drama, vocational work and, in many, worship. In fact, practically every building type is included in the college campus.

In approaching the architectural process in campus planning (and I use this term to include the wholeness of a college plant—ie, the buildings, grounds, circulation, landscaping, interior furnishings and equipment), I would like to bring into focus the major aspects that influence and give direction to a successful solution of the problem. These aspects are, in my opinion, more important to a successful solution than scientific gimmicks or technical gymnastics in structural clichés.

The first and perhaps most important aspect of a successful architectural solution is a clear understanding of the total objectives in campus planning. And I use the word *total* advisedly, since most educational specifications are limited to a very general statement of school organization, traditional or team teaching, plant size and enrollment—together with a very detailed itemizing of room spaces, lineal feet of chalkboard, and the height and number of toilet fixtures. Well and good as far as the technical facts of a school building are concerned, but a valid statement of total architectural objectives, including expression as well as functions, is seldom if ever found therein.

Esthetics or Cosmetics

I am sure that many college administrators realize subconsciously the power of architectural expression. I am also sure that many have experienced school plants that, while being functionally and technically outstanding, are esthetically a total loss. How often have you heard it said, "Well, that campus certainly has functional buildings and a fine educational program, but it just doesn't appeal to me!" Perhaps in cases such as these there is less to the campus than meets the eye, or, perhaps the buildings are more cosmetic than esthetic.

For a college campus to be wholly successful it must achieve not only a successful functional solution but also a successful solution of its environmental expression as well—a solution so successfully blended that in experiencing it, function cannot be consciously divorced from expression as a total quality. But we must not get the idea from this that what is available to us through architectural expression is not as real and important as is utilitarian function, or that it makes a campus cost more.

For the interesting thing about it is the fact that good architectural expression costs little or nothing, its only requirements being the client's appreciation of its importance and a creative architect. There is an old aphorism in architecture that states, "Architecture cannot rise above the client regardless of the genius of the architect," and this still holds today.

Now how does architectural expression influence the function of a college campus? Examples are too numerous to discuss all of the ways. However, I would like to use four that come to mind. These are scale, order (or campus organization), materials and style.

Scale is one of the most influential design elements in architectural expression. For instance, let us take a campus planned to accommodate 15,000 students. A large campus of this size creates inherently a degree of impersonality that affects students, faculty and educational efficiency alike. The sheer mass of numbers makes it impossible to create an environment that manifests a feeling of humanness and individual importance—which are important elements in achieving an atmosphere conducive to a most successful educational program. In addition, administrative, maintenance and student-supervision costs increase materially and in many cases to a point that cannot be justified. In this example alone we can see an advantage in the small college campus over the large, with respect to human values as well as economy. But scale is of course not limited to the size of enrollment of a school plant in its influence on education and character of design. Scale also comes into play in the design and planning of the various individual buildings that go to make up a campus. For example, in the case of student residential units, scale plays a predominant part in total campus character. Housing for 500 students can be accommodated in one massive beehive type of a building with maximum *efficiency,* while at the same time losing entirely the human qualities and residential feeling of identity of the individual. On the other hand, residential units modulated into units of 25 to 30 students with individual entrance halls, living rooms, and unit bath and toilet facilities (which, by the way, cost no more than gang showers and toilet rooms located down a common corridor), certainly recognize the predominant importance of human values over that of solely achieving maintenance economy and efficiency for the janitorial staff.

And this recognition of scale in the internal functioning of student housing reflects itself not only internally, but also in the character of the exterior spaces of the campus. One appears to the observer from the exterior to be institutional, impersonal and cold; the other manifests human warmth and individual importance. In the gigantic monolithic approach to housing necessitated by the large campus, it is almost impossible to attain any degree of humanism, and this further points up the emphasis on human values that is afforded only by the small college campus.

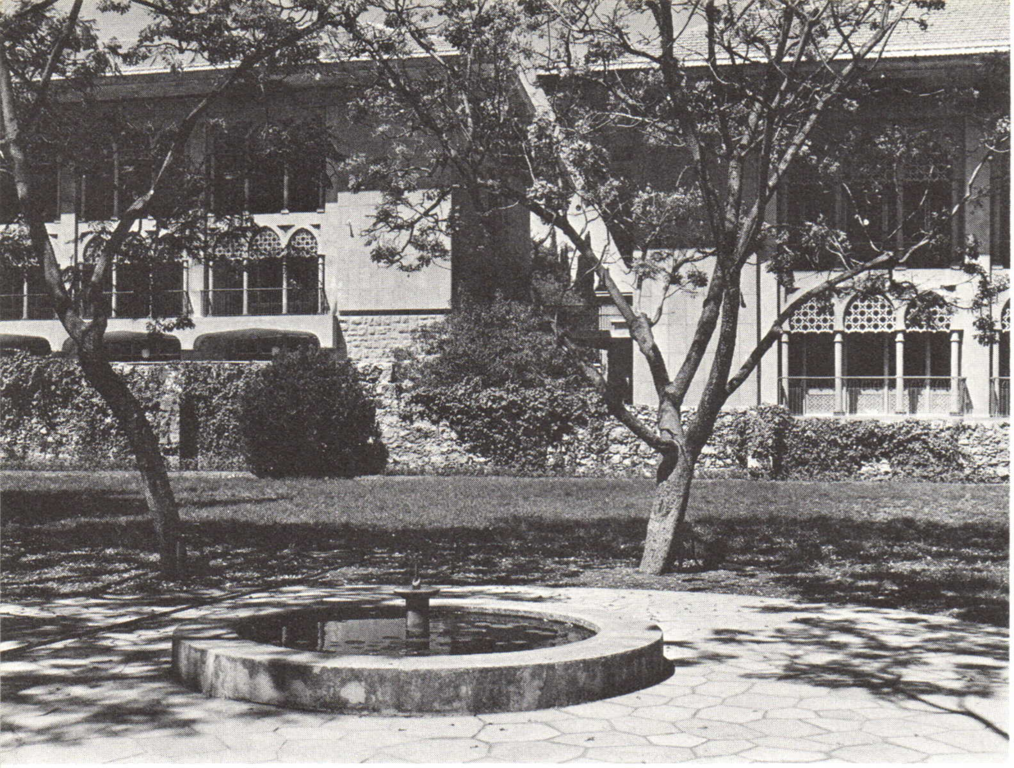
Order or campus organization is also an interesting element in its ability to influence the character of a campus. In addition to efficient relationships of buildings, a campus, through proper space organization, can be made rich in its spatial composition. Going from one class or activity to another is a pleasurable experience. In fact a well-designed campus can arouse innumerable shades of emotional experiences through the variations and modulation of spatial qualities. Such experiences can only be compared to the moods and shades of emotions aroused by music in its most intricate symphonic forms. This may sound rather far out to some, but examples manifesting this in campus design exist today and need only to be experienced by those who doubt the validity of this contention. Buildings can be organized to achieve the same functional efficiency but in ways which, unfortunately, result in a trite and sterile expression with no more interest or warmth than that of an army cantonment with standardized buildings in standard rows. Interestingly enough, one will not cost a penny more than the other. A sensitivity to architecture is the only difference. But I might add that good architecture cannot be guaranteed by state licensing of practioners, or by the retention of expert consultants to act as a crutch for the mediocrity of the practioner retained for the work. For an expert, I believe, is a person who will prevent one from making little mistakes, but perpetuates the big ones. The best guarantee of securing good architecture is objectivity, on the part of the client, in the selection of a good architect.

Construction materials, the vocabulary of architecture with which we define and enclose our rooms and spaces, have perhaps the greatest impact in their contribution to the emotional quality of buildings. Unfortunately there is a great trend today towards the use of synthetic and artificial materials for building finishes, based solely on their practical economy and ease of maintenance. At the same time there is a disregard for the fact that the spaces created are for the use of *human beings,* with human values and emotions. While these sterile, clinical types of interiors respond properly to tests conducted with scientific instruments and give a good account of themselves in laboratory reports—are these the sole criteria for the creation of a proper environment for the education of students? I think not. I am happy to to see a trend towards the carpeting of classrooms and away from the frozen-food-store feeling of the vinyl plastic floor. Furthermore, I am rather astonished that the use of carpeting has to be justified by massive scientific analysis before school boards and administrators have the courage to use it.

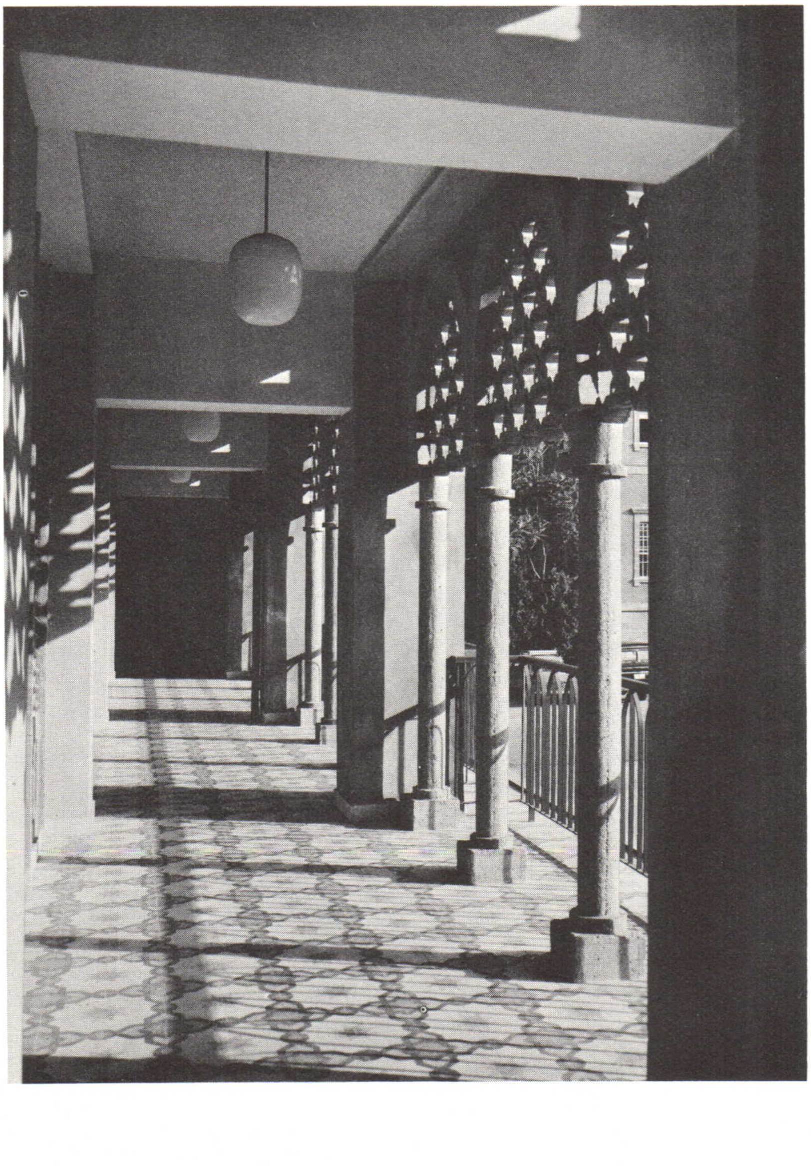
My last point concerns itself with architectural style—perhaps the most misunderstood and controversial aspect of architecture. Style in architecture is not a superficial exterior treatment of buildings selected at random by the most influential personality on the board as appropriate for the campus. This seems to be the most common method of determination of style, except in the rare case in which the architect is the most influential personality.

Regionalism

Style, however, is a much more interesting phenomenon and is the result, rather than a predetermined objective, of the architectural process. Appropriateness of style rests on whether the result of design or feeling of the atmosphere desired has been successfully captured. Perhaps most important of all is whether the campus, in its design, is also sympathetic with character of the area and region with respect to its roots, traditions, climate and topography. In architectural parlance this is sometimes called regionalism. Different regions throughout our country each have a definite quality or personality that is readily sensed. New England has a character that is different from that of the Midwest, or California, or the Southwest. And



Above and below, buildings designed by the author for the University of Beirut. Another example of a campus that is "sympathetic with character of the area—its roots, tradition, climate, topography." Use of indigenous materials is often cheaper. The ornate handmade tile used to pave this walkway cost less than any imported substitute. Photos: Rondal Partridge (above), Cinephot (below)



these differences involve not only climate and topography, but also traditions and forms that, through the years, have become a part and parcel of the personality of the region, related to it, and recognized as characteristic of it.

While a form of architecture may fit sympathetically into one area, it would at the same time be completely out of harmony with the character of another region. As an extreme example, I believe that you would agree that a Spanish adobe hacienda with tile roof would look rather ridiculous in Tokyo, Japan. It is also ridiculous to impose the same standard form, or style, of building design in New England, Arizona and Alaska; yet that is being done every day in what is currently known as "contemporary" or "the international style" of architecture. It is equally unfortunate to impose a light-industrial type school building design in a predominantly residential neighborhood; yet this too is being done every day. I can categorically state that a school campus can be completely functional, flexible and incorporate every modern technical advance in construction, while at the same time being of a style and expression that is in complete harmony with its neighborhood, region, and the traditions and roots of the area. This does not mean, I might emphasize, an eclectic copy of traditional forms in architecture, but a creative interpretation that results in a harmony of feeling.

These, then, are some of the qualities and aspects of architecture that relate to the spirit of man and their application to the planning of the college campus. We are today faced with an almost insurmountable problem in trying to preserve these qualities. This is due to the tremendous social changes which face our society. The great population explosion in this country is sweeping away all sensitivity to human values and human dignity like a vast tidal wave. As a result, we are constructing larger and larger college campuses, with their attendant production-line qualities and impersonality of scale which reduce the individual student to an anonymous unit. The small college campus, I believe, is the best hope in education today for preserving the dignity and respect of the individual and these are the very qualities necessary for the preservation of the basic cultural values that have made our society the greatest achievement of man. ◄

Snow, Sleet and Blizzards

AIA TECHNICAL REFERENCE GUIDE (TRG) 13-6

by George W. Tresler AIA

Sixth of a planned series of Technical Reference Guides on the following disasters:

HURRICANES • TORNADOES • EARTHQUAKES • TERMITES • FLOODS • SNOW, SLEET AND BLIZZARDS • LIGHTNING

► Snow is a form of precipitation composed of ice crystals produced through the condensation of atmospheric moisture at temperatures below freezing. Usually the crystals develop in the shape of feathery six-pointed stars with spreading branches extending in somewhat symmetrical patterns that have the appearance of lacelike hexagons.

"Blizzard" is a term used to describe a type of winter storm of occasional occurrence, characterized by high wind, very low temperature and an abundance of fine snow in the air. There has been a tendency to use this term indiscriminately to mean any heavy snowstorm accompanied by more or less wind. The US Weather Bureau uses the following criteria in classifying blizzards: wind speeds of 35 mph or more; considerable falling and/or blowing snow; and temperature 20° F or lower.

Sleet is a mixture of snow or hail and rain; a drizzling or driving of partly frozen rain; or rain that freezes as it falls.

Snowfall occurs in the US over most of the area at one time or another, beginning generally along the 30th parallel and increasing in amount the further north and the higher the altitude, with the heaviest snow being found in mountain areas.

Weather maps show in general where snow is occurring and the amounts are reported in the observations, but most of the large accumulations occur in places which are nearly inaccessible or which become so when snow is unusually deep.

Blizzards are more common in the midwestern and mountain areas of the country, although they have occurred at some time in all regions which get snow.

Damage

The extent of property damage or loss of life depends upon the area involved, and to a degree on the time of year, duration and total amount of snowfall. Unusually heavy snow and prolonged spells of snow weather sometimes isolate communities for days, causing disaster; however, extreme cases have fortunately been rare.

Loss of livestock has been great in major storms, amounting to thousands of dollars especially under blizzard conditions.

Sleet or freezing rain has caused damage to public utilities, especially power and telephone lines. With the advent of smooth skin multistory buildings, sleet and freezing rain have introduced additional hazards. Ice forms on the building face during a storm, and then as temperature rises, the ice is shed from large areas at a time, causing sufficient hazard to necessitate blocking of streets until all the ice has been shed.

Major damage to buildings has

Paradise Lodge, Rainier National Park, Washington



US Weather Bureau

Table No 23-B

Roof Live Loads in psf [1]

Tributary loaded area in sf for any structural member	0-200	201-600	over 600
Roof Member			
Flat or rise < 4 in per ft; Arch or dome with rise < 1/8 of span.	20	16	12
Rise 4 in per ft to < 12 in per ft. Arch or dome with rise 1/8 of span to < 3/8 of span with radius 3/4 or greater of span.	16	14	12
Rise 12 in per ft and greater. Arch or dome with rise 3/8 of span or greater, or radius < 3/4 of span.	12	12	12

[1] Where snow loads occur, the roof structure shall be designed for such loads as determined by the building official.

been rare. In a few cases, structural failure of roofs has occurred due to snow loads or combination of snow and wind loads exceeding the amount assumed and provided for in the design.

Blizzards and wind-borne snow have occasionally damaged interior finishes in buildings that were not weathertight.

Historic Blizzards

One notable blizzard occurred in New York City during March 12-13, 1888, causing loss of over 400 lives, due to exposure and to fires which burned houses and public buildings while firemen were blocked off by snow.

On December 26-27, 1947, New York City received 26 inches of snow without wind. This caused stoppage of all forms of transportation, and it cost eight million dollars to remove enough snow to permit movement of traffic.

On January 22, 1952, a passenger train was stalled by blizzard at Emigrant Gap, Calif, with 196 passengers aboard and a crew of 30. They were marooned three days before being rescued.

Table on next page shows major blizzards as compiled by the US Weather Bureau.

Existing code provisions from the four major building codes follow.*

Uniform Building Code—1958

Section 2305. Roofs shall sustain, within the stress limitations of this code, all *dead loads* plus unit *live loads* as set forth in Table 23-B. The live loads will be assumed to act vertically upon the area projected upon a horizontal plane.

Snow load, full or unbalanced, or wind load shall be considered in place of loads as set forth in Table 23-B, where such loading will result in larger members or connections.

National Building Code—1955, 1957 Amendments

902.5 Roof loads. Ordinary roofs, either flat, pitched or curved, shall be designed for a load of not less than 20 psf of horizontal projection in addition to the dead load, and in addition to either the wind or other loads, whichever produces the greater stresses.

The design loads for roofs given in Sec 902.5 of the National Building Code represent the minimum that should be used, regardless of the location of the municipality. The figure given in the code is suitable for use in areas subject to light snowfall. However, in areas subject to frequent or heavy snowfalls, the minimum design load for roofs should be increased commensurate with the amount of snowfall that may be expected in the area.

BOCA Basic Building Code

Building Officials Conference of America—3d edition 1960

711.0 Roof loads. 711.1 Min roof load. In areas subject to snow loads, the roof shall be designed for a live load of 30 psf in the absence of specific information as designated in Sec 712.2.

712.0 Snow load. 712.1 Shape of roof. When the effect of the shape of roof structure as determined by actual test indicates lesser or greater snow retention value than specified in this article, the roof load shall be modified accordingly.

712.2 Special snow loads. In sections subject to snow loads as indicated by the average snow depth in the records of the US Weather Bureau, the design loads shall be modified accordingly.

Southern Standard Building Code 1957-58 Revision

1203.2 Roof live loads. Where the rise is less than 30 degrees, roofs shall be designed for a vertical live load only of not less than 20 psf of horizontal projection applied to any and all slopes; when the rise is greater than 30 degrees, the roof shall be designed for wind load only.

ASA Code

Further information on design live loads for roofs may be found in the American Standard Building Code Requirements for minimum design loads in Buildings and other structures, ASA A58.1—1955. Following are applicable sections of ASA A58.1:

3.8 Minimum roof loads. 3.8.1 flat, pitched or curved roofs: Ordinary roofs, either flat, pitched, or curved, shall be designed for a load of not less than 20 psf of horizontal projection in addition to the dead load, and in addition to either the wind or the earthquake load, whichever produces the greater stresses. *Note:* The unit load recommended in 3.8.1 is a *minimum*. It is intended to provide for loads incidental to construction and repair, for sleet loads and minor snow loads, and to insure reasonable stiffness to the roof. In preparing a local code, the snow records of the nearest US Weather Bureau station or, if Weather Bureau records are not available, the snow-load map (see A3.8.1 below) should be consulted and the indicated unit snow load for the locality, if larger, substituted for the minimum. In such a case, provision should be made in the local code to the effect that any excess over 20 psf may be reduced for each degree of pitch over 20 degrees by S/40-1/2, where S is the total snow load in psf.

3.8.2 Special conditions. When the effect of the shape of roof struc-

* Design load is a factor deserving careful engineering study for each specific job, and no figures should be accepted at their face value.

ture as determined by actual test or experience indicates lesser or greater snow-retention value than specified herein, the roof load shall be modified as directed or approved by the building official.

When valleys are formed by a multiple series of roofs, special provision shall be made for the increased load at the intersections.

Following excerpts from Appendix attached to A58.1 as explanation and supplementary material:

A3.8.1 Flat, pitched, or curved roofs. The map shows snow-load zones based upon an investigation undertaken by the US Weather Bureau at the request of the Housing and Home Finance Agency. This map is reproduced from the publication "Snow Load Studies" issued by that agency. Where no values for snow loads appear on the map, they have been omitted because of irregular distribution associated with rugged terrain.

The value of 20 psf on the projected area, in *3.8.1* of the standard, has been selected as a minimum even in localities where little or no snowfall occurs, because it has been considered necessary to provide for occasional loading due to workmen and materials during repair operations. Where the local snow load, as indicated on the zone map, exceeds 20 psf of horizontal projection, the excess may be reduced from its full value at 20-degree slope in recognition of the fact that less snow is likely to be retained at greater slopes. At 60 degrees it is assumed to disappear.

A3.8.2 Special conditions. It is recognized that there are roof arrangements in fairly general use which present special problems in allowing for snow loads. Some permit greater than usual slide-off of snow, while others tend to encourage accumulation at certain points. No general rules can be laid down to cover all cases, but cognizance should be taken of special conditions where these are present.

Customary Construction Practices

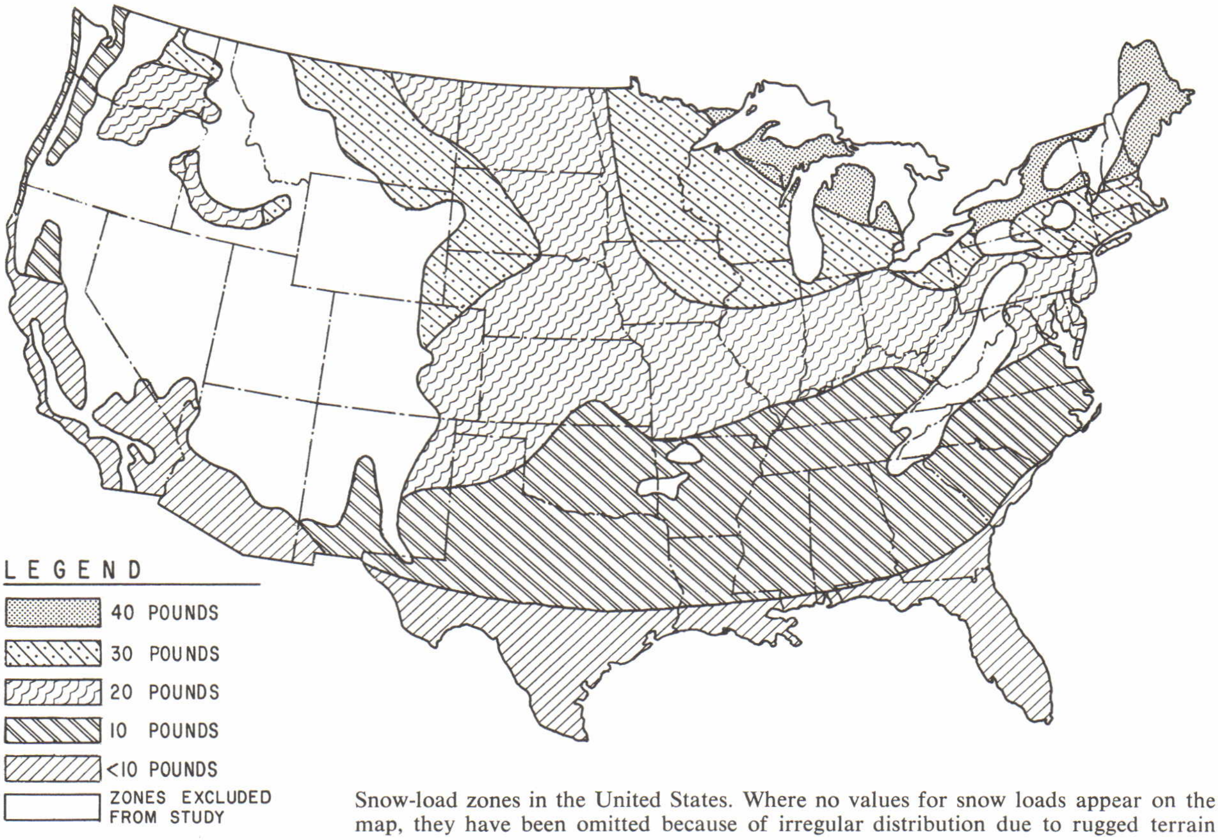
Snow loads are generally used as specified from building codes for design purposes. Where no values are specified or where special conditions occur, records of the closest US Weather Bureau should be consulted. In addition, records or information from local residents may be of value.

Blizzards or blowing snow present problems due to the fact that wherever air will enter, snow will also. Cracks around doors and win-

Some Outstanding Blizzards, 1857–1961

(Data furnished by US Department of Commerce, Weather Bureau)

DATE	LOCATION	REMARKS
Jan 1857	Carolina to New England	Most violent and severe in years
Dec 1867	North Dakota	50 hrs duration; visibility 5 ft
Apr 1873	Dakotas	"Custer Blizzard," wind at Yankton, SD, blew nearly 100 hrs at average speed of 39 mph; visibility 12 yds, many persons frozen, considerable livestock loss
Feb 1881	Dakotas, Nebraska, Kansas	
Mar 1881	Illinois, Indiana, Iowa, Wisconsin, Michigan	Most severe blizzard in area in 25 yrs
Jan 1886	Iowa, Nebraska, Kansas, Oklahoma, Texas	No advance warning; wind averaged 40 mph; visibility 15 ft. 20 lives reported lost in Iowa, 50–100 in Kansas; large loss of livestock
Jan 1887	North Dakota, Minnesota	Wind speeds 36–47 mph; temperatures to −30°
Jan 1888	Kansas to Wyoming; Texas to Minnesota	Reported as most disastrous ever known in area; combination of gale winds, blowing snow and rapid drop in temperature
Mar 1888	Eastern Seaboard	Disastrous from Chesapeake Bay to Maine; cities paralyzed; winds occasionally 50–70 mph; average snowfall 40 in or more; over 400 deaths; losses several million dollars
Feb 1891	Iowa, Nebraska, South Dakota	Winds to 80 mph; 6 deaths in South Dakota, 3 in Nebraska
Mar 1892	Minnesota, Montana, South Dakota	Winds reached 80 mph at Assiniboine, Mont
Jan 1893	Minnesota, North Dakota	Temperatures fell 40° in 5 hrs at Park Rapids; visibility 8 ft
Nov 1896	Minnesota, Dakotas	Heavy loss of life and livestock
Feb 1899	Middle and North Atlantic States	Snowfall 44 inches near Atlantic City; −15° at Washington, D C
Mar 1902	Montana, Dakotas	Temperatures to −25°; high winds
Jan 1909	Iowa, Illinois, Missouri, Kentucky	Snow driven by winds of near-hurricane force; heavy loss of livestock
Feb 1912	Kansas	Worst blizzard since 1886; zero temperatures; high winds
Jan 1918	Illinois, Indiana, Michigan, Ohio	General transportation paralysis; below-zero temperatures
Mar 1920	New England	Heaviest snowfall ever recorded in March
Mar 1920	North Dakota, Minnesota	
Feb 1923	Washington	Wind reached 86 mph at Tatoosh Island
Feb 1923	Dakotas, Minnesota, Wisconsin, Michigan	Traffic disrupted; considerable loss of life and property
Mar 1931	Wyoming, Nebraska, Kansas, Oklahoma	
Dec 1935	Ohio, West Virginia	"Christmas Blizzard"; fine, powdery snow; visibility zero
Feb 1936	South Dakota, Iowa, Wisconsin, Michigan	
Nov 1940	South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, Michigan	"Armistice Day Blizzard," one of most destructive on record in some areas; 60 lives lost in ships on Lake Michigan
Mar 1941	North Dakota, Minnesota	Freezing, exhaustion, carbon monoxide poisoning in stalled cars cost 71 lives
Nov 1948	Colorado, Kansas, Nebraska	Winds to 80 mph; blowing snow; visibility ⅛ mile, 20-ft drifts
Jan 1949	Middle Rockies, northern Great Plains	Food, medical supplies and cattle feed airlifted to worst areas
Jan 1952	California	226 people marooned on streamliner at Emigrant Gap
Feb 1955	Wyoming, Dakotas, Nebraska	
Mar 1957	Kansas, Texas, New Mexico	One of worst spring blizzards; damage $5–$6 million
Dec 1960	New England	
Jan 1961	New England	24-hour snowfall record in New Hampshire, 25.4 in



Snow-load zones in the United States. Where no values for snow loads appear on the map, they have been omitted because of irregular distribution due to rugged terrain

US Weather Bureau



dows should be weatherstripped to prevent this. Attic ventilation and crawl space ventilation should have closable doors or hatches to seal these spaces in winter, in areas subject to blizzards. Eaves and soffits should be tight; otherwise, snow will be blown into attic or ceiling space, melt and damage interior finishes.

Orientation of residences and separated buildings can affect the utility and living aspects of a property. Drifting snow will pile up around and behind buildings, and by proper analysis of the problem it is frequently possible to arrange entrances and driveways so as to avoid major drifting.

Shelter belts of trees are often planted to protect rural or urban property. These belts are placed on the windward side of the area to be protected and placed a minimum of 100 ft from the buildings. Trees decrease the velocity of the snow-carrying wind, allowing snow to drop and form drifts. These usually begin back of the tree belt and extend out from it some distance. Allowing sufficient space between the belt and buildings prevents drifting from reaching the buildings.

Snow fences are often used to form drifts and collect snow away from the area to be protected. This means of protection is used extensively by highways and railroads.

Conclusions and Recommendations

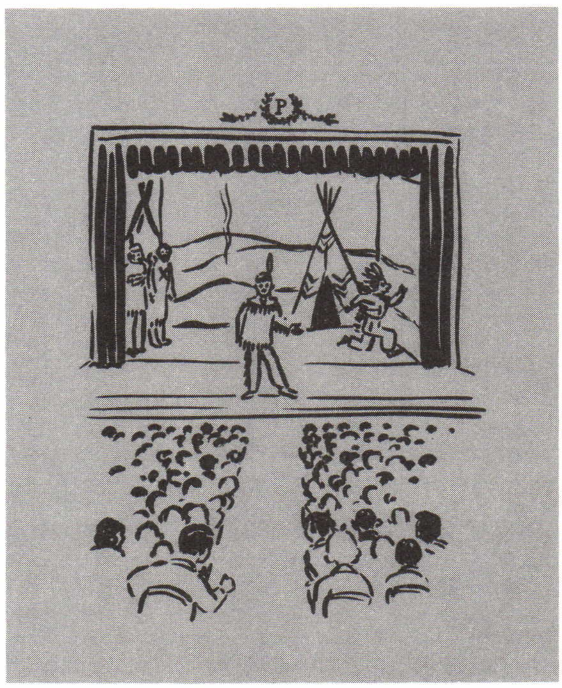
Usually sound design and construction will provide adequately for snow, sleet and blizzard conditions. As mentioned earlier, there are some areas for which adequate snow records are not available, and for these conditions, it will be up to the individual architect to determine design criteria.

Also the hazard of sleet accumulating on the face of smooth-surface buildings, and then dropping as a sheet of ice, has not been solved and needs more research. ◀

AIA *School Plant Studies*

BT 1-51

Theaters in Elementary Schools



by **Martha S. Brush**

One of a series of papers prepared by members of the AIA Committee on School Buildings, and by selected specialists, to make laymen aware of school building problems and trends and to stimulate discussion. They are not intended to be definitive last words and carry only the authority of their respective authors. New subjects are being worked on and contributed articles are welcome. Reprints of these non-technical articles are widely distributed to educators and interested laymen. One copy of each current issue will be sent free of charge—additional copies 10¢ each.

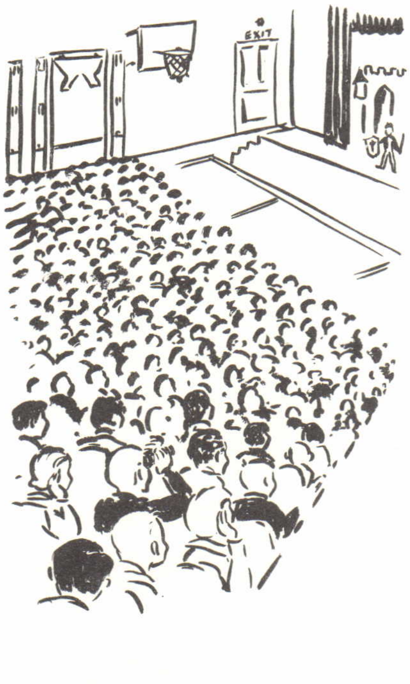
Theaters in Elementary Schools

by **Martha S. Brush**

Drawings by Mrs C. Tibbott

► There are over 300 volunteer groups trouping children's plays to public schools all over the United States. Most are members of The Children's Theatre Conference, a division of The American Educational Theatre Association (AETA). Thus the opinions expressed in this article are the concerns of many people other than this writer.

The main object of taking children's plays into the schools is to expose youngsters to live theater and to find and produce carefully-chosen plays for children with the highest possible production standards. Most of the people involved in this operation are female volunteers who direct, stage manage, act as crew, design, make and paint their own sets and costumes, and in many cases are the actual performers. Whenever possible, children are used in children's roles, and men, possibly college students, are recruited for male roles.

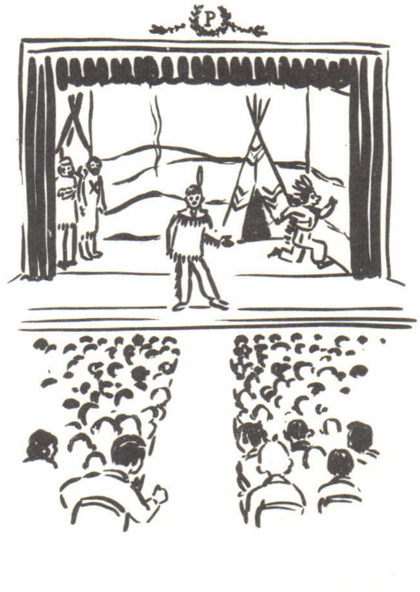


Very few elementary schools have any facility that could be called adequate for a well-mounted play. After all the basis of all drama is to see and to hear. The word "auditorium" is self-expressive. There are three paramount reasons for this lack of adequate facilities:

- Most school boards in this day of emphasis on the sciences are loath to spend money for anything that is considered a frill. But scientific brains come from children who have developed creative imagination. Drama, which is a component of all the arts and a combination of many of them, surely contributes to this indispensable characteristic of future scientists.
- Architects employed by school boards are seldom trained in theater planning, and too often they are confined by a budget which, they feel, prohibits the calling-in of a theater consultant when the time comes to plan the auditorium. The AETA has such consultants available, but there is a deplorable lack of communication, at this time, between school architects and theater consultants. This means that a great many capable architects do not understand that a consultant's fee may save money, time and headaches and, therefore, is well worth the cost.
- Most elementary school auditoriums are built to double as cafeterias and/or gymnasiums and, in some cases, study halls, which can only mean that as auditoriums they are not adequate. It is perfectly conceivable that a cafeteria can serve as a study hall, a lecture hall, or a space for physical education, but an auditorium, to be worthy of its name, should have at least an adequate stage, some simple lighting equipment and carefully studied sight-lines, which would be greatly enhanced by a sloping floor. George Pierce Baker, long-time head of the Yale School of Drama, reiterated constantly to his students that: "There are two things anyone attending a play has a right to expect; one is to see, the other is to hear." It has been my misfortune not to be able to do either in most elementary school auditoriums that I have had anything to do with.

Stage Design

Let us start with the stage. Usually it is a glorified platform with curtains, a hard wood floor and, sometimes, (but not very often) one bridge of lights, controlled by the conventional kind of light switch found in any home. It should be obvious even to the neophyte that these conditions are less than ideal for any sort of a play. There is no room to cross over backstage, no



space to handle costumes or store scenery for shifting sets and no dressing rooms for the performers. The proscenium opening is so narrow that only those fortunate enough to sit dead center can see the size of the room, and the lack of any acoustical treatment prohibits hearing beyond the tenth row of the movable desks, cafeteria benches, or whatever serves as seats.

Now this is all well and good if one is attending a lecture or a monologue by someone standing center stage, but it presents insurmountable problems to the director of a play. It is impossible to have each cast member dash to center stage, say his line and jump out of the way for the next actor to take his place in order to be seen or heard.

The most imaginative scene designer can hardly produce sets that can be easily moved from school to school without being able to drive a nail into the stage floor. In many schools bracing sets with nails is prohibited, and in those where it is allowed, it is next to impossible. Architects are used to using hardwood floors in areas where there is a great deal of traffic. Unfortunately, they often do not realize that a stage floor, to be at all utilitarian, must be of softwood, such as pine or fir. Try driving a nail into a hardwood floor and you will find this statement is not an exaggeration.

Sets and Special Effects

Now we come to the lights. Most children's plays have many magic effects which can only be accomplished with lights. Even when the lighting technician is fortunate enough to have a small portable dimmer and the proper equipment to supplement the existing fixtures, all too often there is no way to darken the cafetorium, gymtorium, or what-have-you.

James Hull Miller is a great proponent of the open stage auditorium (see "The General Auditorium," August 1960 issue of the *AIA Journal*). He feels that it is more flexible, cheaper and a space saver. We do not agree. What difference is there in the cubage if a building goes up instead of out? I maintain that the "up" has an advantage in cost (but I'm no architect and not much of a mathematician). There is, I agree, flexibility, but a theater of this type must use "projected scenery" (a fairly com-







plicated process) or scenery built on dollies or wagons (sets constructed on platforms which roll on and off stage). In the first place, it takes a great deal of wing space to line these platforms up for quick changes, as of necessity they are sometimes 4′x12′ or even larger. In the second place, it takes *man* power, and I do mean MAN, to move them on and off stage and to load and unload them from the scenery truck as it goes from school to school.

The concept of an open stage vs the combination of apron and contained stage may indeed be an answer for university and high school auditoriums because there they have *man* power. In children's theater trouping units we are talking about *woman* power almost exclusively.



With a loft and counterbalanced rigging, women can shift scenes quickly and smoothly by bringing in back-drops that have been flown, just by pulling a rope. This covers elaborate set changes and thus the play can move continuously without intermissions. It also accomplishes two very important things —it shortens the play (grades 1-6 make up a large part of a children's theater audience, and their span of attention is limited). It also does not give time for the otherwise inevitable eating and drinking and running up and down the aisles.

Most plays for children have several sets, and often a trouping group will give as many as fifty performances of a single play. Of necessity, there must be three or four trained crews for each play, and the crews must be small. No volunteer, no matter how dedicated (and children's theater volunteers are a dedicated lot), can be expected to give more than a reasonable amount of time away from home and family. With counterbalanced rigging, as few as four women can handle a complicated play. With dollies it would take three times that many.

The late Frank Lloyd Wright, in the only theater he designed (the famous Kalita Humphreys Memorial Theatre in Dallas), used a circular stage in a circular auditorium. He saw the need for a loft—children want to see Peter Pan really *fly* and Alice really *fall down* that Rabbit Hole. These effects and many others can be accomplished much more easily with a stage with a loft. Try "flying" an actor from a 12-foot ceiling.

Size

Many high school and university theaters have more than adequate facilities. Many give one play for children during their season, but for the most part these auditoriums are not available to the volunteer trouping units. Full-time drama programs of their own are in operation. Most of them also have a seating capacity of 1600 or so. Children cannot possibly project their voices enough to be heard in a place of this size without expensive sound equipment. Also the child in the audience cannot feel any intimacy with the actors on stage. (Identifying with the actors is a very important factor in children's theater.) Therefore, I go along with Wright *and* with Miller in the widening of the seating arc, but I maintain that this can be accomplished with a wider proscenium opening plus an apron which projects far enough into the auditorium to allow the child-audience to feel a part of the play.

I am not suggesting that every elementary school being built today should have a complete theater as part of its plant. This is, I realize, unrealistic budget-wise. I *am* suggesting that school architects and theater consultants get together and plan at least one really adequate facility to serve five or six schools in a given area.

This has been successfully accomplished in several cities, where the Board of Education allows the use of school buses to transport the children to the theater (some during and some after school hours). The job of selling the importance of theater for elementary children to these school boards was done almost entirely by children's theater volunteers.

This article is not intended to be completely negative. More and more communities have realized the importance of live theater for elementary children and are supporting it through PTAs and other civic organizations. What we need for the future is better-equipped auditoriums, so that as the trouping units strive toward greater perfection, the auditoriums in the elementary schools will keep in step. *Please,* let's have closer cooperation between the school boards, their architects and the theater consultants. Better auditoriums will be built in our elementary schools only when this problem of communication among the interested parties has been solved.

The American Institute of Architects now has a Committee on Theatre Architecture. It is my understanding that the members of this committee intend to work closely with the theater consultants of the AETA. This is a tremendous step in the right direction, and both organizations are to be congratulated for recognizing and trying to fill a great need in our future elementary school plants. ◀

International Relations

UIA WORKING COMMISSION ON URBANISM ATHENS—JUNE 1962

by **Arch R. Winter AIA**

► The Hellenic section of UIA acted as hosts to members of the Working Commission on Urbanism. Working sessions were scheduled daily for the entire week, including two days spent at Mykonos (with a short side-trip to Delos). Prof Kitsikis of the Hellenic section was in charge of arrangements.

Mr van Eesteran of The Netherlands was chairman of the meeting. Other representatives of the various sections were:

Tonev (Bulgaria)
Hebebrand (Germany)
Roberto (Brazil)
Cano (Spain)
Hladky (Czechoslovakia)
Akcer (Turkey)
Hoechel (Switzerland—secretary)
Ling (England)
Winter (US—alternate for
  Carl Feiss FAIA)
Argyropoulos (Greece)
Glikson (Israel)
Malisz (Poland)
Loveiko (USSR)
Calsat (France)

observers

van Embden (Delft)
Vassiliadis (Athens)

guests

Wedepohl (Berlin)
Dubuisson (Paris)

UIA representation consisted of Mr Candilis, UIA delegate, and Mme Sonia van Peborgh, who serves as liaison with all working commissions.

Discussions of agenda items were not consecutive and complete, but were carried on intermittently. They are reported herein by subject.

Cuba-Mexico Congress

Theme of the biennial Congress to be held in Havana beginning September 29 will be Architecture for Undeveloped Countries. The Executive Committee has designated four main areas for the Urbanism Commission's part in the program:

- regional planning
- neighborhood planning
- housing
- technological problems

For obvious political reasons, the US delegate could not take much part in discussion of the Havana sessions. But although AIA cannot participate in Cuba sessions, we can and will take part in the Mexico meetings October 8-12—Urbanism Commission's participation will consist of three meetings; one a private working session and the other two public meetings open to all interested persons.

Hopefully, several members of the Commission will attend the Cuba-Mexico meetings and will do some traveling in the US afterward. Plans are being formulated to entertain them here.

Architects and Planners

The matter of architect-planner relationships is apparently a burning question abroad as in the US. Like most architects, members tended to feel that town planning should be done by architects. It was recognized and generally agreed, however, that while architects should assume greater responsibility for urban design, general planning work requires additional training and abilities.

The consensus was that if the architect is to assume the place of leadership he wants, he must develop greater awareness of town planning in his individual building designs.

Some members felt that including town planning in architectural education would help; that the architect is subject to criticism for not being equipped to participate fully.

I reported on the efforts of the Urban Design Committee toward a "white paper" on AIA-AIP—a project still to be completed—and on the Urban Design series in the *Journal,* as an effort to widen the architect's viewpoint and stimulate interest in urban design.

Mr Candilis, the executive committee delegate, asked that members



Working commission members at session: Calsat, Mme Sonia van Peborgh, Tonev, Glikson, Winter, Hebebrand, Wedepohl, Vassiliadis, Malisz

get and furnish to the Commission information on the roles of architect and town planner in each country. He indicated that a questionnaire would be prepared and sent out.

Urban Sprawl

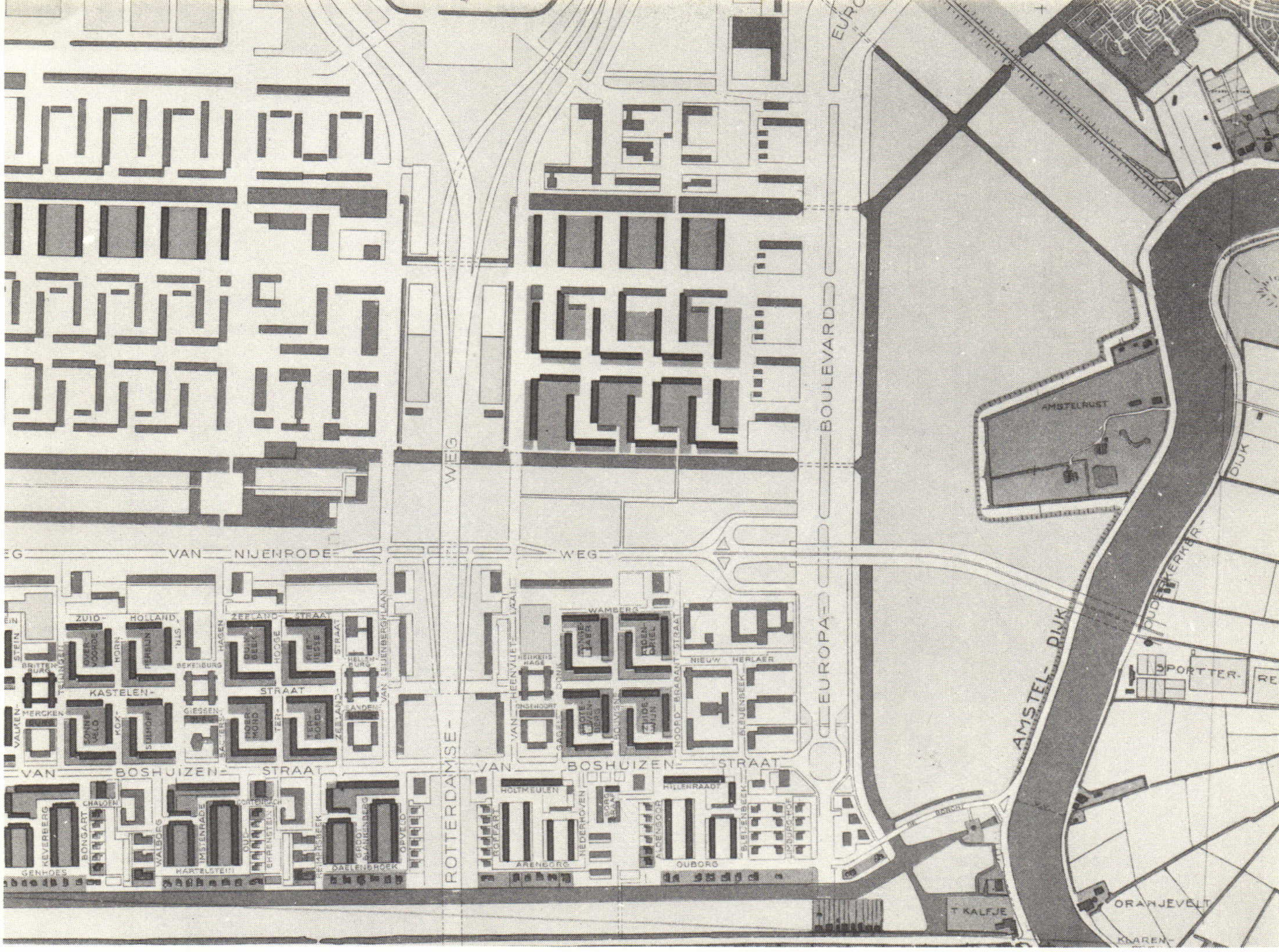
On Friday morning Mr Vassiliadis, Director of Town Planning in the Ministry of Public Works, reported on Greek town planning. Chief problem is increasing growth and spread of the only two large cities—Athens and Salonika—and the lack of any authority to control it either from a local viewpoint or in terms of the national economy. Mr Vassiliadis hopes to establish a central planning office in the Min-

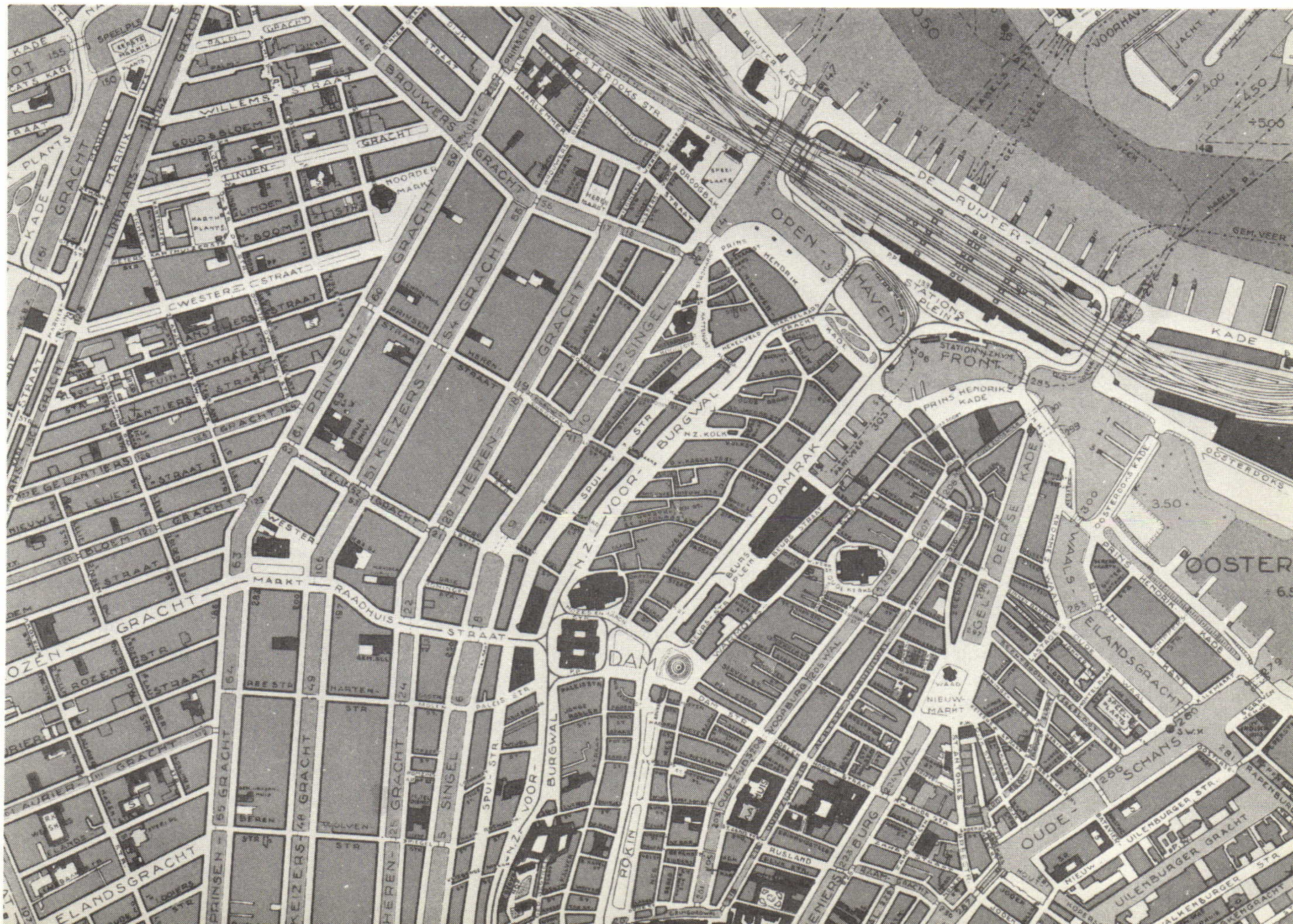


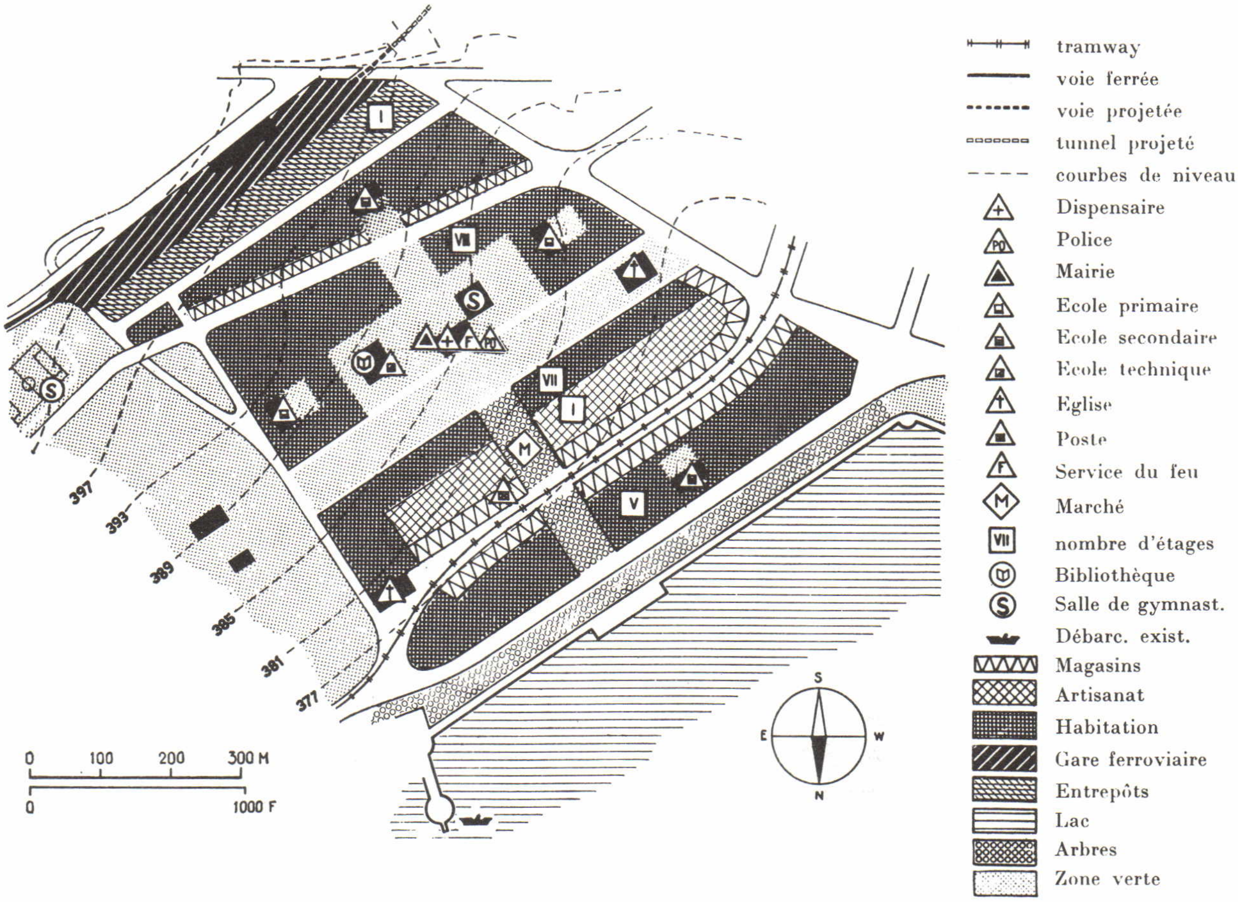
Photos: *Arch R. Winter AIA*



Above, view of Athens—old town from Acropolis. At left, Mykonos port. Opposite page, sections at actual size of van Eesteran plans of Amsterdam: new housing area (above) and center of old city (below)


WEG VAN NIJENRODE WEG
EUROPA BOULEVARD
ROTTERDAMSE WEG
VAN BOSHUIZEN STRAAT
KASTELEN STRAAT
AMSTEL DIJK
AMSTELRUST
T KALFJE
ORANJEVELT


BROUWERS GRACHT
WILLEMS STRAAT
PRINSEN GRACHT
KEIZERS GRACHT
HEREN GRACHT
SINGEL
DE RUIJTER KADE
OPEN HAVEN FRONT
STATIONS PLEIN
PRINS HENDRIK KADE
DAMRAK
DAM
N.Z. VOOR BURGWAL
RAADHUIS STRAAT
WESTER MARKT
ROKIN
NIEUW MARKT
OUDE SCHANS
GELDERSE KADE
WAALS EILANDSGRACHT
OOSTER



Commission secretary Hoechel (Switzerland) showed "normes graphiques," standard map symbols which may hopefully come into international use. Symbols (cross for church, book for library, etc) and standardized marking for industrial or residential areas, parks, water would simplify use of maps and town-planning aids on an international basis. (This example is reproduced from a presentation in "Bulletin Technique de la Suisse Romande")

istry to collaborate with individual town planning agencies. He reported that there is a new national economic plan which has not yet been translated into terms of physical planning.

There is a feeling among architects in Greece that the profession is being left out of town planning—in fact, that little or no effective planning is being done in any case. Many Greek architects have had graduate education in town planning and feel that this should be an important part of their work.

Mr van Eesteran spoke on city design on Saturday, and illustrated his talk with plans for Amsterdam and other cities in Holland. Members of the Hellenic section immediately brought up several questions attempting to interpret what is being done elsewhere in terms of what can be done in Greece. (What can be done to control the growth of Athens and stimulate that of other towns? How can we fit into the work of the government planning agency? How can we go about imposing design standards on new growth, much of which is entirely unplanned with narrow footpath streets, no sanitation, etc?)

Obviously no pat answers can be given to questions like these; if any one solution could be applied to all urban problems, there would be no need for such discussions. The visitors did try to give examples from their own experience to show the kinds of things that can be done.

Mr Ling of England later pointed out that Athens has important advantages as a city site, but limitations on size and control over the sprawling suburbs (now spreading up the surrounding hillsides) are needed.

One public meeting was held, attended by the Greek architects and some students. Several of the Commission members gave illustrated talks; unfortunately no time was available for question and answer sessions, which disappointed the guests.

Conclusions

Concrete results of the meeting are not easy to measure. Comparisons of population densities or of parking problems are things that can be considered only in the context of the individual countries. On the other hand, the meeting seemed successful in allowing for exchange of ideas.

More important than our immediate reactions, however, are the likely long-range values to the Institute and its work. Over a period of time, and with continuity in our participation in the working commission, there is no doubt that we can strengthen our own program for bringing architectural and town planning work into more effective relationships. This, of course, is the principal objective of AIA's Urban Design Committee. ◀

ASSOCIATION OF COLLEGIATE SCHOOLS OF ARCHITECTURE

The Ills of Architectural Education: A Diagnosis by Anon

Graduate Research at Berkeley by Sami Hassid

Books: reviews by Calvin C. Straub, Peter Collins and Philip N. Youtz

Material offered for publication should be sent to the Editor, Marcus Whiffen, School of Architecture, Arizona State University, Tempe, Ariz. Opinions expressed are those of the individual contributors and should not be taken to represent editorial views or ACSA policy.

For the advancement of architectural education

Arizona State University
University of Arizona
University of Arkansas
Auburn University
University of British Columbia
University of California, Berkeley
California State Polytechnic College
Carnegie Institute of Technology
Catholic University of America
University of Cincinnati
Clemson College
University of Colorado
Columbia University
The Cooper Union School of Art and Architecture
Cornell University
Cranbrook Academy of Art
University of Detroit
University of Florida
Georgia Institute of Technology
Hampton Institute
Harvard University
University of Houston
Howard University
Idaho State College
University of Idaho
Illinois Institute of Technology
University of Illinois, Urbana
University of Illinois, Navy Pier, Chicago
Iowa State University
Kansas State University
University of Kansas
Kent State University
Louisiana State University
McGill University
University of Manitoba
Massachusetts Institute of Technology
Miami University
University of Miami
University of Michigan
University of Minnesota
Montana State College
Instituto Technologico de Monterrey
Ecole d'Architecture de Montreal
National Institute for Architectural Education
University of Nebraska
University of New Mexico
Agricultural and Technical College of North Carolina
North Carolina State College
North Dakota State University
University of Notre Dame
Ohio State University
Ohio University
Oklahoma State University
University of Oklahoma
University of Oregon
Pennsylvania State University
University of Pennsylvania
Pratt Institute
Princeton University
Rensselaer Polytechnic Institute
Rhode Island School of Design
Rice University
University of Southern California
Stanford University
Syracuse University
Agricultural and Mechanical College of Texas
Texas Technological College
University of Texas
University of Toronto
Tulane University
University of Utah
Virginia Polytechnic Institute
University of Virginia
Washington State University
University of Washington
Washington University (St. Louis)
Western Reserve University
Yale University

The Ills of Architectural Education: A Diagnosis

by Anon

The ACSA *has not in the past published anonymous contributions; nor does it intend to make a practice of it in the future. However, the absence of the author's name from the manuscript from which this article is printed did not seem to be a good reason for denying the* Journal's *readers the benefit of his incisive remarks on a subject of such general concern —especially since it appears probable that those remarks were prepared for delivery at an ACSA meeting. Internal evidence in the manuscript suggests that the paper was written about twelve years ago, and some parts of it, which had obviously dated, have been excised. The question is: How much of what is printed here is still true today? Or have we changed all that? The Editor invites answers or comments, in letter form. He also invites the author, to whom surely no apology is due, to reveal his identity.*

When one boards a foreign-bound plane one shows a passport—a token which discloses one's right to embark. It seems to me that before getting aboard a controversial question one should disclose one's prejudices. Where disclosure is made, so much time is saved. Furthermore, one can enjoy another's prejudices if they are clear and understood. But if they are merely latent in the complex of his thought, they tend to be intolerable.

Of my own dear prejudices two are particularly operable where education is the issue. I believe that architecture is one of the humanities. This one makes me place a highest value on general education. I also believe that I myself received the poorest of education, if indeed I can be said to have received it, and if it did in fact bear any resemblance to an education. This one makes me place a very low value on schools in general. It also puts me in a gullible position *vis-à-vis* professors. I cannot help but suspect that they know things of vital interest and importance, which I could understand if only I knew how. To me a professor is *per se* a great man.

Thus freighted, I would argue that the quality of architectural education depends to some large extent on how we answer three separate but related clusters of questions. The first of these has to do with how architecture itself, and therefore how architectural education, is defined. Is there more than one definition? If so, why? Are they all equally valid? If not, which is most central to architectural practice? These questions have to do with the ideological adjustments of architectural schools. It is essentially an external view, a front elevation which does little to disclose the interior of the institution.

The second cluster has to do with that interior. How do schools choose their students? Are "average" and "talented" applied to students, value judgments on a single species or are they really symbols for two species? How, in general, do professors relate to the profession and to the students? In short, what are the dynamics of the social situation? Here again we are outside looking in—outside the individual student. Thus the third cluster has to do with his personal situation. What does he know about architecture when he arrives? Is his early training confirmed or denied? What effects do confirmation or denial

have on his professional adjustment? What effect does his adjustment have on the profession as a whole?

Ideologically speaking, architectural schools of reputation vary significantly. One needs only to know with what larger institution they are connected in order to sense where they stand. They are located within institutes of science-*cum*-engineering, in art schools (or in the art departments of great universities), or as one of many satellite professional schools around a university. Architecture is conceived of as (a) science-connected, (b) art-connected, and (c) neutral. This broad latitude allowed the schools is based on the tripartite nature of architecture itself: it is defined as "the art or science of constructing edifices for human use. . ." At least this is the humanist definition. Scientific schools tend to define it as "the *science* of constructing edifices," while art schools tend to define it as "the *art* of constructing edifices." The "for human use" clause is not purposely left out of these definitions. Rather it gets lopped off in the conflict which ensues between the true nature of architecture and that of either art or science. This conflict, where architecture is conceived of as an art, has to do with expression.

The art-connected school

In the fine arts the drive is towards pure self expression; in architecture the drive is towards social symbolism. The fine arts, pictures, sculpture, books, are designed in the first instance for *individual consumption.* Architecture is designed as a tool for the furtherance of established social institutions—the family, the congregation, the business, the government. Architecture partakes of fine art only when the essential social symbolism is overlaid with the personal subjective expression with which artists imbue their work. The staffs of art schools are very naturally primarily concerned with the development of the latter talent. But this quality in architecture is an end step—it is not central. Before architecture can become fine art it must function humanly, structurally, mechanically, and symbolically. Thus a training based on the needs of fine artists is at the wrong end of architecture's cornucopia.

The strength of the art-connected school tends, of course, to be in basic design, freehand, art history and architectural history. Standards of taste and accomplishment in these areas are high. Through a natural process of selection the architectural design critics are apt to be art-minded and talented. The reputation of the school attracts students similarly oriented. Art students are famous for their difficulties with mathematics, chemistry and the like. The engineering courses are brought in from outside. Even when the people who teach them are inside they are still thought of as outside—outside the subjective world of art. Architects themselves call statics, dynamics, sanitation and electricity "service" courses. They are not even central to architecture, let alone to art. In the art-oriented school such courses must be presented in not too onerous a fashion, in order to meet the low tolerance for them on the part of the students, both in terms of the students' ability and the course's prestige.

The situation is such that history or the study of form for its own sake is extolled, while function and the study of structure for its own sake is neglected. The education becomes lopsided. Taste and value judgments far outweigh scrupulous pragmatic thinking. Function and structure become hopelessly subservient to form, and the excesses in this direction are defended on grounds intellectually so shaky as to seem absurd. At the extreme there are schools where the "artistic temperament" and the childish excesses typical of pseudo-artists are allowed such unbridled control that they can only be placed in the lunatic fringe.

But, if the intellectual tone of such schools tends to be less than ideal, their social tone is often very pleasant. An essential characteristic of artists is love of pleasure—they are always the ones who first discover its signs and portents. There is great opportunity for lively discussion, glamorous parties, and suchlike activities. Artists are also interested in the essences of everything, including science, as long as they can approach them subjectively. This ability to give and take socially and to be interested and outgoing in all directions is much needed in architecture, and compensates to some extent for lack of intellectual rigor. After all one can hire rigor, provided one knows where it exists, and provided one is tolerant enough to give it, once hired, its head. Whether because of tolerance, or weakness, long continued inequalities in the education offered architects by the art schools are rare. This is not equally true of the scientific institutes.

The "scientific" school

The reason for this has to do with the relationships of artists, scientists and architects. In our culture artists are low down on the totem pole, and as such are under constant attack. They are vulnerable. Architects are above them. When artists are pressured by architects they tend to give in, in order to maintain as friendly a relationship as possible. Scientists enjoy the most tremendous, awe-inspiring, and pervasive prestige. In addition they tend to be rigid and unsure in their approach to life, and in particular to the arts. These facts combined tend to make them nearly immune to architectural influence, on every level. Thus architectural schools in scientific institutes tend to be swallowed whole. And of course the more prestige the institution maintains, the more completely it subjugates its architects. Scientists will

not compromise with architects to the extent that artists will.

But this common use of the word "science" is highly misleading. The truth is that the "scientific" institutes are engineering schools with a small group of sciences, at the high end of their intellectual and social spectrum, and at the low end a number of loosely connected disciplines such as business administration and architecture. Engineering is the central interest of the institutes. The scientists and the architects, separated by the whole breadth of the institution, actually have nothing whatever to do with each other. It is the engineers whose values and prejudices are brought to bear on architecture. In one such school, business administration used to be classified as a humanity. In the same institute architects are still considered as intellectually inferior, slipshod and generally outside the pale. In faculty meetings the engineering majority make it the rule to insult their "long-haired" brethren. Architects in an art-directed school are, on the other hand, considered to be rigid, mechanistically minded, and chiefly concerned with a shallow manipulation of concretes. The profession labors under a classic difficulty. It is at one and the same time the wrong thing to all men, and all things to all men.

The virulent nature of the personal tensions between architects and engineers is also due to the fact that they are in direct competition. Both disciplines are concerned, in part, with edifices for human use. But, by definition, engineering excludes enjoyment (art) from its concerns. Engineers *contrive,* architects *create.* Thus in spite of the fact that architects and engineers share many of the same goals, and many of the same techniques for reaching them, the quality of the end product and the fundamental approach are diametrically opposite. Our society places a higher value on mechanisms for the extension of its power than on edifices for the enjoyment of other pleasures. Thus engineers are inevitably more powerful and more single-minded than architects.

In the scientific institutes this situation leads to an emphasis on the engineering courses far more drastic than the reversed emphasis in the art schools. One such school omitted, for many years, all history from its curriculum. Typically the attitude is that architects should take exactly the same courses in science and engineering that scientists and engineers take. These courses often bear only the faintest resemblance to the service courses architects actually need. Architectural students learn how to wind armatures under the general heading *Electricity* (taught for electrical engineers) or learn how to prevent epidemics in backward tropical countries under the general heading *Sanitation* (taught for public health officers). Such courses are presented with the greatest rigor, for an obvious reason: they are central to the disciplines concerned. This rigor is not only foreign and antipathetic to architecture and architects; its difficulty, plus the fact that such courses swamp the curriculum, prevent the architects from the exercise of their own kind of discipline in their own central subject. The bitterness of the students concerned is matched only by the bitterness of their professional professors, who quite naturally resent having to teach uninterested and unqualified students in the field of their own lifework.

Even in those areas where engineering and architecture overlap most completely, scientific excesses are common. For example, architects are taught how to design T-beams, only to forget it during their professional apprenticeship. They then must take refresher courses in the subject in order to take their registration examination. Only when that has been passed can they finally and irrevocably relegate the subject to engineers. A skilled architect in general practice would no more design his own T-beams than he would do his own typing. The young architect can only conclude that the grandfathers in his profession are using the prestige of engineering in order to delay and if possible to prevent him from competing with them.

Just as the art schools tend to attract teachers on the art-for-art's-sake periphery of architecture, scientific schools tend to collect teachers on the technocratic fringe. In this case artists, architects and historians are the outsiders, not only outside, but deemed inferior. In order to achieve status, the tendency is to "scientificate" their subjects. Thus art becomes the "scientific evaluation of the perceptual process" and architecture itself is relegated to a "lab course in design research." The staff spends its entire non-teaching hours on research into every conceivable side issue to architecture. The tendency is to break everything down for examination in detail rather than to put everything together for examination as a whole—this latter being the architect's principal mission in life. Such research, because it is imitative rather than dynamic, because it lacks intellectual probity, is quite literally despised by the true scientists and engineers. It only serves to lower still further the prestige of the entire architectural profession in their eyes.

The unconnected school

Because they are not subject to either artistic or engineering pressures, the unconnected schools are in the best position for an attack on the central core of architecture. Artists and engineers feel, of course, that such schools, lacking professionalism at the poles, can only be shallow. The danger of the position is that where everything is taught specifically for architects, no one will be really expert at anything. And in fact many such schools fall soggily into the trap. Sociology is taught by ex-city planners, materials by ex-specification writers, history by disappointed architects, land economics by ex-real estate men, and art by ex-air brush experts. But where such situations have not been allowed to go too far, the resulting education is more conducive to good architecture than that at the extreme. It at least approaches the center, though it does so without talent. Furthermore no higher authority forces such a situation on the school, in perpetuity. Thus its

faults can be ameliorated or corrected with relative ease.

Among the various disciplines which bear on architecture there are inevitably numerous people who see their own lifework as connected with it, just as architects see the connection from the reverse direction. Such people exist, of course, in all schools. But, inside their proper institutions, they tend to be prevented from cross-fertilization on a formal basis. Their colleagues insist that they are "too valuable to teach a service course," and feel that generalization leads to error and contempt. Outside their proper school they are more or less on their own. There are sociologists and psychiatrists who see in the architect's situation a fruitful field for study, structural engineers with a passion for form, professors in the combined field of history and literature with a lively interest in the history and literature of architectural ideas, sculptors who recognize no pecking order in the realm of structure, and public health doctors who see the house as a basic aid to physical and emotional well-being. The opportunity open to the unconnected school is precisely that they can, because of their neutral position, attract such teachers. But they can only do so when they, in turn, have something to offer. That something is an exact appreciation of where and how these various elements fit into the synthesis which is architecture.

Standards and students

The standards of the school and the abilities of the students are fitted together in such a way that there turns out to be a modicum of students really unsuited to the profession, a large number of average students, and a very small number of talented students. The school regards these students as all of the same breed: their variations are not conceived to be of kind, but rather of innate ability. In theory they are to be treated exactly alike, given exactly the same chance at a standardized education which, in its turn, is conceived of as the best, whether it be arty, technocratic, or in fact the best possible. This bald statement of the abstract relationships is of course modified in practice. For example, engineering-connected schools undoubtedly attract technically-minded students. But they also, by accident as it were, get art-minded students, who make heavy weather of them. And of course, special ability usually achieves special privilege. The individual criticism method used in design courses leads to quick recognition, and this tends to free young architects, regardless of the rigidities of the over-all situation. In these and other ways the theory is modified and humanized, but nevertheless it is the backbone of the educational structure.

We have already seen that the education architects receive is by no means standardized; at the very outset it is defined in three different ways, and from definition onwards can take a large number of directions. So one must question the assumption that students are of the same kind—that the only variable in the situation is talent. In fact, average and talented students seem to vary in many and significant ways, not only in school, but throughout their lives.

The average student tends to approach architecture as an important, useful and rewarding craft—to be learned. His attitude towards school can be summed up in a remark often directed at his professors: "Please show me the best thing to do. I am willing and eager to learn, and will do it exactly as you want me to." The attitudes implicit here are unwillingness to think, passive acceptance of authority, and good will. Such students form the great majority. In later life they do the great majority of buildings. This is by no means solely because of their relative numbers. They are characteristically better adjusted socially than their more talented brethren, have less far to go in order to reach maturity, and thus reach it sooner. As architects they make only the most minor "practical" improvements on what they have learned in school. Thus, because they are the ones chiefly responsible for the quality of our man-made environment, what they learn in school is of the most tremendous importance and significance.

The talented student seems to approach architecture as a challenge to his ingenuity and creativity. His attitude towards his professors is more often than not, "Tell me what you think if you must, but don't expect me to believe a word of it." In short, he tends to be quite disagreeable, or, as we say nowadays, poorly adjusted socially. The fact that he is "ahead" in school, and that he can keep ahead in less time, thus creating for himself the opportunity to branch out in directions closed to average students, is deceptive. He has farther to go both emotionally and intellectually. His general development after school tends to be slower than that of his average classmate. During his apprenticeship he will wear out more jobs. His first commission will be slower to materialize. His first solid success will not be achieved until he is over forty. His ability to slap the Chamber of Commerce on the back may never catch up with the average architect's. But, even in the beginning his fame will spread, as the average student's never will. And in the long run he will make relatively large contributions to the main stream of architecture.

The average student would seem to need an education conceived of as a relatively durable set of precepts, reinforced by as many principles as he is able to absorb. The talented student will not accept precepts. Indeed he will systematically destroy and discredit them. He looks upon principles with the greatest of scepticism and distrust. He is happy only

in the realm of theory. He needs and is willing to absorb more theory than the average in such areas as electricity, sanitation, acoustics and design. Particularly he needs theory in architecture itself—the whole complex—a subject which is, today, in a sad state of neglect. And finally he needs insights into his problems in social adjustment. The fundamental contrast is that average students tend to need training in specific skills, while talented students tend to need insights into how, with more speed and less destructiveness, they can bring their peculiar gifts to bear upon reality.

Students and staff

In schools of reputation the staff tends to come from both groups. But while those from the talented group may represent a cross section of their adjustment, those from the average tend to come from the top of theirs. Thus the average of ability and training for school staffs as a whole, and in general, is very much higher than the average for the profession as a whole. In the light of the average student's need for principles and precepts slightly ahead of his time, in order that they may last him well, this is exceedingly fortunate and a credit to schools in general. It seems to contradict the dire overtones of that most vulgar of commonplaces, "Those who can, do: those who can't, teach."

The tendency is for the majority of the staff to identify with the talented students, because they come from the same group, and thus tend to sympathize with their values and to understand their problems in adjustment. The administration of the school on the other hand must, for important administrative, educational and financial reasons, support the cause of the average. The schools are in every administratively controllable sense geared for the majority, while in those areas where human nature has its way, the minority is favored. Average students nearly always feel that the professors play favorites, are only interested in brilliant students, and would rather speculate than preach. Talented students feel that the staff is more or less superannuated. In the end a large proportion of all students take a dim view of their professors, if for different reasons.

This situation is in essence a four-cornered row, where administration, staff, talented and average students are all pulling in somewhat different directions. Below these four groups are the sub-marginal students who receive, amid the general excitement, very little attention and no sympathy. This fifth group, through inattention, soft-heartedness, and a soft-headed notion that it just might contain a genius, wends its lonely way through the curriculum, and finally graduates along with its betters. At their thesis juries, the staff is utterly shocked and horrified by what they see, by the implications of letting so poor a professional loose on the world, and by the guilty feeling that if they had perhaps paid more attention to the students involved, the situation might be somewhat better. The administration on the other hand knows that to refuse such students a degree at the eleventh hour is to admit that they have not received an education, and that they never should have been allowed to believe that they could. This sort of mistake, they feel, is better kept a secret from higher powers, the public at large, and if possible, from the student himself. It is the school's mistake and to make the student suffer unduly is to compound it.

The staff and the talented students believe that the sub-marginal students have a destructive effect on the standards of the average students. "If so-and-so can get through on stuff like that, why should I break my neck to do so much better?" Actually this is the sort of thing students often say but seldom act on. The real fear is that the sub-marginal students will create the impression *outside* the school that its standards are low, and that the staff and talented students will lose prestige therefore. In point of fact the standards maintained by any one school seem to depend on the success with which talented students can force the highest average on the average students. One learns from and tries to please one's professors, for obvious practical reasons. But one competes with, emulates, is stimulated or depressed by one's contemporaries. Interaction in the individual class is the nexus of the school situation. The same sort of interaction, less personally but no less generally competitive, occurs in the school as a whole. Talented students of all ages seek to discover each other. The various classes compete. It is not uncommon to have a particular class recognized as tops, both socially and in terms of standards, from the day it enters. By the same token one often hears some such remark as, "Our class is dull and always has been. We just don't seem to have the stuff the third year has."

To separate talented from average students would thus be to forfeit the importantly constructive effect that they have on the latter's standards of accomplishment. But these same high standards are not an unmixed blessing. Because the staff tends to set the best available work as the standard, a rat-race can develop. This occurs in class hours. When marks are given, the reality of variations in ability forces on the staff a sudden lowering of its sights. They appear to contradict themselves. This saddens the professors, disgusts the talented students, and maddens the average students. Average students with emotional difficulties, despite the fact that they are graded realistically, can see the competitive situation as hopeless, with devastating results to their morale. In addition the talented students (often known as "wild men" to the average) usually tend to take a systematically critical approach to teachers, to the curriculum, and to the way courses are presented. Within the confines of the talented group this barrage of criticism is not fundamentally destructive. It is counterbalanced by the ability, when it comes right down to it, to see the things despised in much larger perspective, where they may have quite favorable values attached to them. But the average students cannot place finite criticism in this perspective. As a result the talented students some-

times persuade them that they are wasting their time and money in a criminally mediocre institution. A small group of talented and neurotic students can destroy the morale of a whole school.

These factors do not entirely explain the wide and sudden swings in morale and in standards typical of architectural schools. The reason such swings occur, and are tolerated, is also due to professionalism in the architectural and other staff. Like some of the engineers teaching service courses in science-connected schools, architects also tend to think of themselves as professionals first and as teachers second. It is the subject which is of first importance to them, not the educational process, or the morale of the school as a whole. No one could quarrel with this emphasis. On the other hand it behooves architect-teachers to broaden their interests in the educational process, and in the dynamics of the school situation. On such scores almost any architectural school has a lot to learn from almost any progressive elementary school.

The high value placed on conformity, plus his eagerness to grow up, plus the lack of instruction in architectural theory, lead the student to search for the structure of modernism on his own time. The architectural press is, in the majority of cases, where he both begins and ends his search. Design critics deplore his efforts. "I wish the students would look for inspiration somewhere else than in the magazines," is a common remark. They subscribe to the theory that the press is the source of all clichés. But the fact is that dogma is to cliché as theory is to originality.

The lack of formulated thinking in these realms has a most depressing effect on the atmosphere in the schools. It is striking that most students and professors find the average public jury inexpressibly boring. Details are picked away at ad nauseam, while principles, and in particular *connections* are seldom mentioned and almost never systematically explored. The student's real needs, for a bridge between his past and the present, for an indoctrination into modernism thorough enough so he can see it whole, for a sense of the relationship of client to program to idea to sketch to verbal presentation to client, are ignored. Confusion strikes deeply into the curriculum. One unconnected school used to call the college courses prerequisite to it "Architectural Sciences." Yet with the exception of one course in drawing (art) and two in graphics (science), they are all properly classified as humanities. The unwillingness or inability to generalize, of which these examples are only symptoms, is not specifically a school problem. It is a reflection of the unwillingness of the profession as a whole to undertake pragmatic thought about architecture.

The scene at every way-station we have visited evokes the same general set of thoughts. The schools and all of their problems are inextricably mixed up with the profession, and all of its problems. It is for this reason that attacks on the schools from the profession seem so unconvincing. Because the schools, as we have seen, draw their teaching staff from the best of the profession, criticism of teachers often appears as the cast iron calling the stainless steel black. Attacks on the philosophical positions adopted by the schools seem equally hollow. Indeed one often feels that these particular forays are, in reality, pleas for guidance. Finally, new curricula, integrated curricula, etc, while undoubtedly of the greatest importance, are no more than half, if that, of the whole problem. The best curriculum *per se*, if it is not in every detail closely related to the realities of architecture, is a very rickety vehicle indeed.

It would seem that the real need of the profession and of the schools at this moment is a new look at the profession itself. Of what does it really consist? In what areas does the practitioner have most difficulties? Where is his output greatest? Above all, where does the client enter the picture? To approach these questions solely from a point of view internal to architecture would obviously be useless—this is what every architect and every school does as a matter of course and of necessity. We must approach them from outside in order to achieve any perspective. We should enlist business schools to con our business, sociologists to con our professional relationhip with the public and with incoming students, psychiatrists to con our professional drives, schools of education to examine our educational process, and the like. This finite data can then be assembled, digested and abstracted by the architectural profession itself.

Certain of the specifics which need clarification have been suggested here. But, as has been evident, most of them arise in situations which are not altogether problematic. If the situation were changed, an important advantage would be lost. Thus these particular problem areas must be studied within their context, and improvements must be designed so as not to create new problems. It would seem that at the moment one can only ask questions. How can the scientific and art schools be persuaded to take a more realistic view of architecture? How can pseudo-scientific and technocratic excesses be discouraged? What is the real relationship between practice, education, and architectural registration examination? How in the fifty states can the situation, once understood, be ameliorated?

The problems of talented versus average students are equally difficult to answer. Obviously a method of testing for professional talent is essential. Equally obviously, studies in the group dynamics of architectural schools can do no harm, and might be of inestimable value. Professional prejudice against such efforts, in the light of the vast amount of time and

money industry and the Armed Forces have spent on them, is ridiculous. But how can talented students' problems be ameliorated without undue expense, specialization, and penalties for the average? How can students in general best be eased out of traditional myths?

This new look at the profession must also deal in futures. For example, it is completely obvious that social science, psychiatry and psychoanalysis are here to stay. It is equally obvious that they can be of inestimable use to the profession. They must be creatively and skillfully used in the schools. The sooner this becomes generally the case, the sooner solid benefits will accrue. On the other hand there is a very real danger that a social scientism as virulent as physical scientism will grow up and, in its turn, sweep a multitude before it. Certain of the devotees of the social sciences are rabid as any found in physical science. Practitioners in other fields are already beginning to question the rationality of social and scientific myth and methodology applied everywhere and anywhere. Perhaps it is too much to hope that we can escape this unaffected. But the effort to escape can only be considered a noble one.

Graduate Research at Berkeley

by Sami Hassid, University of California

Graduate studies are acquiring more and more importance in the total picture of architectural education, and activities comprehended under the term research play an ever larger part in them. This trend is likely to continue, if for no better reason—and of course there are many better reasons—than that research is a magic word in our century. As those in certain other fields discovered long ago, where there is research, there the money flows. All too often, the result has been a concentration on the inessential and a growth of what the author of the preceding article calls "scientism." If architectural research is to avoid these dangers it must attack problems that are real and employ methods that are truly scientific. Hence the value of the example of Berkeley, here described by Dr. Sami Hassid.

The Department of Architecture of the University of California at Berkeley started in 1958 a graduate program leading to the degree of Master of Architecture. This was a sequel to the offering in 1953, under the impetus of Dean William W. Wurster, of a "new" five-year undergraduate program leading to the degree of Bachelor of Architecture. Outlines of the two programs may be found in the announcement of the College of Environmental Design which groups the Departments of Architecture, of Landscape Architecture and of City and Regional Planning.[1]

The primary aim of the graduate program in architecture, as published in the announcement of the College, is "to develop responsible and enquiring individuals whose breadth of understanding will conceive of architecture and environmental design as an integral part in a broad social fabric, and whose attitudes and devotion will make possible better and more penetrating solutions of the problems of the modern environment."

The author had the privilege of participating in the development of this program and, concurrently, of playing an active role in the formulation of a policy on architectural research. This report relates mainly to his experiences in this dual role.

Architectural research

Deliberations on the subject of architectural research and of its place in architectural education led to the formulation in 1959 of a "Policy Statement on Architectural Research" for the organization of research activity in the College (now Department) of Architecture.[2] The statement constitutes one of the earliest and most comprehensive documents of its kind. Some of its highlights follow.

Architectural research is needed to cope with changes in architectural thought, to fulfil the requirements of emerging as well as evolving functions, to take advantage of the opportunities offered by the expanding technology and to deal with problems created by the increasing industrialization of the building process. It is becoming more and more necessary to conceive of architecture in a wide urban, environmental and universal context, to reappraise the role of architectural education and practice, to dig into the past and to project into the future, and finally to capitalize on progress being made in related disciplines.

Architectural research is a systematic and deliberate investigation seeking to add to the body of knowl-

edge of architecture. It is characterized by its search for generalizable findings based on replicable tests, or by its pursuit of better understanding based on logical argument and the examination of the "human" element in our environment. Architecture draws on several related disciplines and fuses art with technology. Hence architectural research may follow the rigorous techniques of the scientific method in certain of its variegated areas of interest, but should be expected to develop methods of its own in those areas of inquiry in which intuition and human value judgment play a preponderant role.

Research encompasses several forms of activity, some of which are most appropriately conducted in specific surroundings in preference to others. In a university setting, routine tasks such as the periodic collection of data, services of a commercial or promotional character such as material testing and product development, should only be assumed as adjuncts to major research undertakings or when they cannot properly be conducted in other research units or organizations. Within a university, emphasis should be placed on those phases of creative effort which contribute to new knowledge, whether the process be through basic or applied research. Consideration should also be given to those phases of research activity which complement the educational experiences of the student body and which involve the faculty in freely accepted foci of interest.

The graduate program

The graduate program in architecture at Berkeley is designed to give the student an experience that will be more than a mere duplication or amplification of his experience at undergraduate level. This is achieved in several ways.

Three courses are required, each having a specific aim in this quest for diversification of experience. The "seminar in architectural research" introduces the student to research methods, enables him to appraise research endeavors and trains him in research design. The course on "major problems of architecture," as its name implies, involves the student in the identification of major problems of the discipline and in the development of approaches to solutions of these problems in a broad social and physical context. The course on "architectural design and research" is mainly meant to be a forum for the exchange of ideas on the content of theses undertaken by those students electing the thesis option.

An optional course offered by the department, "seminar in architecture," investigates topics related to the theory and practice of architecture. So far, these topics have included "housing problems" and "perception, creativity, evaluation." The optional course "special study for graduate students" is given on an individual or group basis and is meant to answer special desires and skills of students and faculty. Eight to twelve units are scheduled for elective courses which may be taken in any department of the University at graduate or upper division level. These have to meet the approval of the graduate adviser and are designed to fill voids in the student's background or to afford opportunity for more intensive study in a special area of interest.

As can be realized from this survey of offerings, architectural research permeates the graduate program in many of its facets. Since the author has been involved mainly with two of the above courses, namely "seminar in architectural research" and "seminar in architecture," the intent and content of these two courses will be dealt with in a little more detail here. The relationship of these courses to the objectives of the graduate program and the philosophy behind the various offerings at graduate level at Berkeley will be discussed in a more comprehensive report at a later date.[3]

Seminar in architectural research

The primary goal of this seminar course is to expose students to the spirit and strategy of scientific research and of other research approaches. Through a combination of lectures, presentations by guests, assigned reading, discussions and individual assignments, students are familiarized with research developments to date, with research methods of other fields, with the topical areas within which research bearing on architecture may most promisingly be undertaken, and with the methodologies and limitations of such research. The student thus develops his own confidence in becoming an intelligent consumer and discussant of research reports and in perceiving the potentials of architectural research for the development of knowledge in the discipline.

The course starts with an account of the rich resources of the University Library and of its several departmental collections. A session is devoted to a discussion of knowledge classificatory systems, to problems of information retrieval and to research developments especially as they bear upon architecture.

Two sessions are scheduled for an investigation and discussion of the development of knowledge in fields bearing important relations to architecture. One of these sessions concentrates on the development of esthetic thought, the other on the study of science and technology in historical perspective. The purpose of these sessions is to gain a better insight into methods by which development has been achieved in these fields and to derive lessons for possible parallel developments in architecture.

A discussion of research and theory building within architecture is broached in a following session. Architectural research is defined, its present status

INDEX TO ADVERTISERS

Allied Arts

Stamps

by Wolf Von Eckardt, HON AIA

► Now that we must pay another penny for our postage stamps, it's time that we also pay more attention to them. Lack of attention seems the only explanation for their incredibly poor design. For I refuse to believe that these generally hideous little pieces of paper that spell "United States of America" to millions of people all over the world actually reflect our national taste.

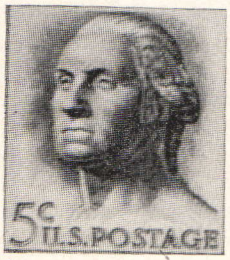
"Whenever the United States Bureau of Engraving misprints a few sheets of stamps that find their way into eager dealers' hands, the excitement and extra value continue to obscure an unhappy fact," wrote Fairfax M. Cone recently in the *Chicago Daily News*. "For at least a generation this country's postage stamps have been inferior in design and color to almost all from any other country, and some are incredibly ugly."

The grim new, blue-gray, bleary-eyed, square-jawed, bull-necked and pathetically heroic five-cent George Washington (1) again confirms Mr Cone's observation. This rendering reminds me of nothing so much as the sentimentally heroic "socialist realism" the Soviets continue to display. In style, this version of George Washington is perilously similar to the new Lenin the hapless Hungarians were forced to picture on a recent issue in deference to their conquerors (2). But both, we and they, have done worse. The big powers, which seem compelled to display their might so tastelessly on postage stamps, could learn from humbler nations.

Compare, for instance, Israel's handsome pine cone (4) with our graduating nurse lighting a candle (3). I should think our nurses would be insulted rather than honored to be pictured as a waxen World War I poster-style Gibson girl. And why this mawkish candle lighting bit? Flipping through a stamp collectors' magazine to brief myself on the subject of this column, I found that Colombia did much better by her nurses. She honored Manuelita de la Cruz, a nurse who died saving lives during the 1955 flood. Manuelita's portrait is no great work of art (6). But compared to our insipid mannequin, she comes across as the wonderful, human and humane person she must have been.

Poland is an exception among iron curtain countries, with some handsome stamps, rivaling Switzerland and the Ryukyu Islands in clear graphic design. France, as you may have seen, now decorates her letters with the works of her greatest artists, among them Matisse (5), Cezanne, Braque and Fresnaye. They don't always make good postage stamps, but it's an interesting idea and certainly far superior to our kitsch.

The US Post Office Department professes to be aware of the problem and hopes to raise our stamps to the level of fine art. It has a twelve-man Citizen's Stamp Advisory Committee, but the Postmaster General has the final word. The Advisory Committee has two advertising art directors on it and, Departmental hopes notwithstanding, seems to have a hard time with its level-raising. When it was found, for instance, that the grand sum of $32,700 was spent on outside artist fees during the previous three years, the government decided the Bureau of Engraving designers would have to do even more of its own stamp designing. At least one Advisory Committee member, Norman Todhunter, considers the Bureau's work "unsatisfactory because of their outmoded styles." Todhunter also says that "by being miserly about the cost of good art, we project a second (or third) rate image to our people and abroad." Artists and the Committee are being given vague and imcomplete information, he says. Political considerations are



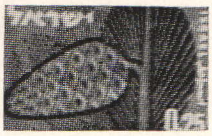
1



2



3


4



5



6

given far too much weight, art decisions are made by people who are not artists, too many cooks spoil the broth, and ultimate reproduction of fine designs is often "disastrous," he adds.

It is not easy for an outsider to evaluate the validity of these charges. But the results would seem to bear them out. One hopeful sign is that Postmaster General Edward J. Day has just announced that the National Gallery of Art is sponsoring a competition for the design of the science stamp to be issued in the fall in honor of the centennial of the National Academy of Science. Day hopes this will stimulate leading American artists to become interested in stamp design. It is, as we said, high time. ◄

means. The Ford dome was ninety-three feet in diameter and weighed eight-and-a-half tons as compared with an estimated 160 tons for a similar steel structure. The hollow sphere was made up of aluminum members in octet formation covered with a plastic skin. If I recall its history correctly this dome first thrilled an admiring public at the Chicago World's Fair and then was taken to Dearborn for re-erection. If this is true, it shows the demountability of the Fuller domes and their durability.

The Union Tank Company's domes are the largest ones which Fuller has yet constructed. These have a diameter of 384 feet. They cover two-and-a-half acres. But in his projects for the future, Fuller sees no immediate limitation of the size of his structural bubbles. One of the intriguing illustrations which are a valuable addition to the text is a translucent dome covering a section of lower Manhattan. Why shouldn't modern cities be protected by domes so as to provide a controlled environment for their inhabitants? Heat and cold, rain and snow, perhaps soot and smog, all could be replaced by a delightful Hawaiian climate. If this turned us all into lotus eaters, the temperature could be stepped up a few degrees or a stimulant could be introduced into the water supply.

Vitruvius writes that an architect should be a philosopher. Mr McHale presents Fuller as a philosopher and includes the following from the latter's writings: ". . . . I propose that the architectural departments of all the universities around the world be encouraged by the UIA (Union of International Architects) to invest the next ten years in a continuing problem of how to make the total world's resources serve 100 per cent of humanity through competent design.

"It is probable that if the architectural students are progressively disciplined to breadth of capability in chemistry, physics, mathematics, biochemistry, psychology, economics, and industrial technology, they will swiftly and ably penetrate the most advanced scientific minds resident in the university, and as their programs evolve from year to year in improving capability, the students will be able to bring the highest integral scientific resources of man to bear upon their solutions of world town planning and its design instrumentation and operational regeneration."

PHILIP N. YOUTZ, *University of Michigan*

Other Books Received

Inclusion here does not preclude review in a future issue.

SCANDINAVIAN ARCHITECTURE. By Thomas Paulsson. Newton, Mass: Charles T. Branford Company, 1959. $7.50.

MID-CENTURY ARCHITECTURE IN AMERICA: HONOR AWARDS OF THE AMERICAN INSTITUTE OF ARCHITECTS, 1949-1961. Edited and with an introduction by Wolf Van Eckardt. Baltimore: The Johns Hopkins Press, 1961. $12.50.

SITE PLANNING. By Kevin Lynch. Cambridge, Mass: The MIT Press, 1962. $8.00.

OFFICE BUILDINGS. By Jurgen Joedicke. New York: Frederick A. Praeger, 1962. $15.00.

PHILIP JOHNSON. By John M. Jacobus Jr. New York: George Braziller, 1962. $4.95.

LOUIS I. KAHN. By Vincent Scully Jr. New York: George Braziller, 1962. $4.95.

EERO SAARINEN. By Allan Temko. New York: George Braziller, 1962. $4.95.

KENZO TANGE. By Robin Boyd. New York: George Braziller, 1962. $4.95.

GOTHIC ARCHITECTURE. By Cecil Stewart. Vol III of Simpson's History of Architectural Development. New York: David McKay Company, 1962. $12.50.

RENAISSANCE ARCHITECTURE. By J. Quentin Hughes and Norbert Lynton. Vol IV of Simpson's History of Architectural Development. New York: David McKay Company, 1962. $12.50.

Professor Hitchcock has shown, it was designed by Dutert and Contamin.

Mr Straub's final chapter, entitled "The Present," is a model of good sense and good writing, and should be compulsory reading for every architectural student, since it contains some uncommonly wise reflections on the esthetic implications of civil engineering with respect to architectural design. Indeed, as an antidote to the theory that Maillart's bridges are best understood esthetically by reference to Picasso's Cubist paintings, it could not be improved upon. In particular, all architects should read the subsection of this chapter entitled "The Limits of the Analytical Approach to Structural Engineering," of which the following quotation gives a characteristic sample: "At the risk of repeating the obvious, this fact must be emphasized again and again: *The uncertainties in the basic constants* (ultimate strength, modulus of elasticity, elastic limit, thermal expansion coefficient, degree of shrinkage) are so great that any seemingly greater accuracy of results obtained through refined methods of calculation or through consideration of all incidental contingencies is, in reality, illusory. . . . In any case, the effort required to push the theoretical accuracy of calculation beyond certain limits is mostly out of all proportion to its usefulness. It is, therefore, only to be welcomed if the emphasis is shifted from laborious bewildering and complicated calculation work to over-all considerations of good and purposeful design, *in toto* and in detail, ie, to correct proportions and dimensions and to the integration of the structure with its surroundings." These remarks, it should be noted, are intended as much for engineers as for architects. As Mr Straub rightly perceives, the civil engineer is not, as James Fergusson thought he should be a century ago, "only the architect who occupied himself more especially with construction, and the more utilitarian class of works." He is, or should be, as artistically creative as the architect is or should be, working within the same flexible limits in his choice of proportion and composition. The differences between the two professions lie essentially in the scale at which they work and in the uses to which their structures are put; for whereas the architect's job is to provide environments for human beings, the engineer is mainly concerned with environments for machines.

PETER COLLINS, *McGill University*

R. Buckminster Fuller

By John McHale. New York: George Braziller, 1962. $4.95.

The Scots are not easily daunted. John McHale has had the courage to place R. Buckminster Fuller within the covers of a 128-page book, of which forty-two are text and the rest illustrations and notes. This calls for condensation and compression which would have been beyond the capacity of a less penetrating and experienced writer.

If I had chosen the title for this book, I would have called it "A Transcendentalist in Modern Dress," which would have been appropriate because Bucky is a New Englander and his distinguished ancestors include Margaret Fuller. You remember that this feminine philosopher once remarked, "I accept the universe!" to which Carlyle commented, "Egad, she'd better!" Buckminster Fuller also accepts the universe as his private domain, not in an unsocial sense but as the proper study for an educated man. His research, however, is focused on his remarkable terrestial maps, which display the continents with minimum distortion, and his structural spheres and domes, which span vast areas with the lightest of frameworks and plastic fabrics.

It was fortunate that a designer and artist should present Bucky Fuller's life and works because I doubt whether a person of more limited vision could have appreciated the impact which his structures have had both on the public consciousness and on architectural thinking. Fuller's great contribution is to the imaginative life of his times. He has fathered fantasies that have proved wise and applicable to modern wish fulfillment. For all their airy lightness, his structures promise to endure when our heavy masonry concepts of domes are forgotten as the ruins of a departed lithic age.

Mr McHale recounts Buckminster Fuller's early experiences in the housing industry. His Dymaxion house astounded conventional builders and industrialists in 1929; indeed it still stands out as a beacon pointing the way to a new age which will follow our ranch houses, designed for a generation fed on westerns, and our split levels for schizophrenics. The best of the mobile homes of our day timidly incorporate many of the features of the Dymaxion house. Industry is still experimenting with factory-built site-assembled models for the mass housing developments. In this field Fuller will always be recognized as one of the pioneers.

As Mr McHale points out, Buckminster Fuller never has accepted any of the conventional formulas for contemporary architectural design. He criticizes the International Style and calls it "fashion inoculation." Modern architects have been too much preoccupied with the appearance of buildings and machine products and have ignored the structural design and the special properties of new materials. For example, they have been content to draw building plans which appear light and airy to the eye but which actually require many tons of steel and concrete. Fuller, on the other hand, is a successful designer of structures which are actually light in weight. His attitude toward surplus weight in architecture is as severe as the modern doctor's insistence that his patients control their poundage within strict limits.

The day that the copy of John McHale's account of Fuller's contribution to creative architecture arrived, the reviewer passed the famous Ford Rotunda at Dearborn. Alas, its great dome was a volcano of flames and smoke. This catastrophe in no way invalidates the concept of the geodesic dome but it simply stresses the fact that space frames and other light member types of construction must be protected against fire by foam plastic or other effective

this. A few paragraphs from Louis Sullivan's "Kindergarten Chats" would have helped to thaw the chill that results from so many cold hard facts. A young man should know that an architect *loves* architecture, that it possesses his life, that to be involved in it is the most exciting thing in the world. This is not romanticism of coloring; this is the reason to be. "An architect is a man who builds. Builds with his head and his heart. Builds because he *must* build." Frank Lloyd Wright's definition is still sound advice.

CALVIN C. STRAUB, *Arizona State University*

A History of Civil Engineering: an Outline from Ancient to Modern Times

By Hans Straub. Reprint. Newton, Massachusetts: Charles T. Branford Company, 1960. $5.00

Every reader of "Space, Time and Architecture" and its progeny knows that for the last century, at least, the history of architecture has been inextricably bound up with the history of civil engineering; yet how many university courses on the history of architecture go more deeply than Giedion into this relationship, or include a more serious study of the crucial developments which occurred concurrently in this related field?

The interest of such a study is not to explain more fully why the two disciplines are related, for this would seem patently obvious to anyone. On the contrary, its interest is to discover in what fundamental ways they diverge, since much of the futile clamour, frequent since 1850, for greater cooperation between these two professions is based on an unwillingness to appreciate the fundamental and healthy differences which have caused them to separate within the last two hundred years. Indeed, it is symptomatic of the general indifference to these differences that Nervi is included in the "Masters of World Architecture" series, whilst Perret is classified by Bruno Zevi as an engineer.

Until quite recently the information necessary for an understanding of the distinction was virtually inaccessible in North America, since there was no book in English dealing with the history of civil engineering. But with the appearance, ten years ago, of Erwin Rockwell's translation of Hans Straub's "Die Geschichte der Bauingenieurkunst" (Bâle, 1949), this difficulty disappeared. Mr Rockwell's translation (as the editor of this journal has remarked) went virtually unnoticed by reviewers when it was first published; but the need to reprint it so soon seems to indicate that its importance has been widely appreciated, and all this review needs do is draw even wider attention to its acknowledged worth, especially to those who teach in architectural schools.

Mr Straub conscientiously begins his book with a survey of civil engineering as practised in Antiquity and the Middle Ages, but this survey is mercifully short, and the really important part of his study begins on page 54 with an account of the mathematical innovations of the Renaissance, and the beginnings of the theory of the strength of materials. For it was of course the use of mathematics, and especially of new mathematical techniques such as calculus, which first made engineering projects distinguishable in kind from architectural designs.

The crucial break between the two professions occurred in the middle of the eighteenth century, and those who have long suspected that it was during this period, rather than in the mid-nineteenth century, that the world saw the origins of Modern Architecture, will find in Mr Straub's independent conclusions a welcome, authoritative and stimulating confirmation of their own views. His key chapters in this respect are those numbered V and VI, entitled "The Advent of 'Civil Engineering' " and "The Origins of Structural Analysis in France (1750-1850)." No one reading these splendid accounts could possibly avoid the conclusion that architecture and civil engineering necessarily became separate professions when engineers began dealing with spans which, because of their increased size and radius, no longer permitted reliance on the rule of thumb methods of stereotomy which had proved adequate for masonry structures since the time of the Romans. The masonry of bridge-building and the masonry of architectural construction became the responsibility of different professions because henceforth each was to rely on different techniques of design, and the practice of architecture could not help but reflect these changing conditions. As early as 1771, engineering methods were used to calculate the stability of the dome of St Geneviève (or the Panthéon) in Paris; but even when architects began to adopt engineering methods extensively at the end of the nineteenth century, the differences in technique, imposed by continuing differences in scale, necessarily survived.

Inevitably Mr Straub's subsequent chapters, dealing with the nineteenth and twentieth centuries, contain material which, in its relationship to the history of modern architecture, will be largely familiar to readers of "Space, Time and Architecture"; but it is still extremely useful as a succinct account of the developments at this time. Some of the information relating to the history of reinforced concrete might profitably be revised if the book is ever republished in a second edition. Moreover, there seem to be one or two errors in the part dealing with the history of steelwork, such as the statement (on p 184) that the Eiffel Tower was built of steel, whereas much of its historical significance is related to the fact that it was built of iron. Similarly, the author attributes the 1889 Galérie des Machines to Dutert and Cottancin (misspelled here Ducert and Cottaucin), while in fact, as

sults were recorded for every slide and a graph was produced showing the relation of degree of complexity to interest rating.

The third project was a study on the "Reaction of a Moving Observer to his Environment." With a movie camera, film strips were produced for selected environments incorporating a certain gradation of complexity of composition. Three speeds of movement were used to produce different film strips. A group of observers viewed the film strips and assessed the degree of complexity of every strip. Other observers were asked to indicate their reactions to each film strip within a range going from claustrophobia through pleasure to agoraphobia. Graphs were plotted for each speed of movement relating the degree of complexity to the reactions within the said range.

Financial and administrative difficulties inherent in student work kept the readings in all three projects beneath the level reacquired for reliability of results. Despite this paucity of primary data collected, some interesting results were obtained. Students seem to have enjoyed getting into the act of actually pioneering research projects in a field often said to be unresearchable.

---

1 Yearly publication of the University of California, College of Environmental Design

2 Policy Statement on Architectural Research for the College of Architecture of the University of California, the Research Committee for 1958-59, Donald Foley, Chairman et al; the Sub-Committee on Policy Statement, Sami Hassid, Chairman, and James Prestini, University of California, College of Architecture, January 1959

3 To appear in the September issue, which will be devoted to the subject of graduate studies.

4 Thomas Creighton FAIA developed simultaneously a very interesting course on perception and evaluation which he offered in the spring of 1962 at Columbia University

5 Hassid, Sami Y., "A research program on systems of judgment of architectural design," (abridged form), College of Architecture, University of California, December 1958

6 Hassid, Sami Y., "Interest distribution in the evaluation of architectural design," presented at the faculty seminar on architectural research, Department of Architecture, University of California, Berkeley, November 1960

7 Published under the title "Systems of Judgment of Architectural Design," in *New Building Research*, Spring 1961, Publication 986, Building Research Institute, National Academy of Sciences–National Research Council, pp 92-107

Books

Architect: Creating Man's Environment

By Robert W. McLaughlin. New York: The Macmillan Company, 1962. $3.50.

Professor McLaughlin's new book will interest everyone to whose lot falls the counseling of students contemplating a career in architecture. Designed to meet the need for a comprehensive introduction to the architectural profession, it is one of a "Career Book" series under the editorship of Charles W. Cole, President Emeritus of Amherst College. President Cole in his introduction points out that a frequent cause of failure by students in professional schools is an incomplete or confused idea of the realities of the profession and the academic program leading to it. The object of the series is to present in a factual manner the problems of the entrance into and the practice of the different professions, and to give as vivid a picture as may be of what it is like to belong to them.

On the factual side Professor McLaughlin has done a worthy job. In general his pages have a serious, no-nonsense quality which clearly reflects the academic and professional dignity of the writer. You soon recognize that he has little interest in those who "may have an urge to put on sandals and walk in one man's aura." (His book should be of assistance in providing an antidote for the influence of Ayn Rand's Howard Roark on young students.) He advises the novice that becoming an architect entails a long hard struggle calling for almost superhuman strength, intelligence and perseverance. He points out, as I am sure most counselors do, how difficult it is to combine the qualities of a professional man, a creative artist, and a business executive, and he explains each of these aspects of the architect's character thoroughly. He supplies an abundance of detailed information on every phase of architecture and the profession, from education through practice. Brief biographies of five famous American architects, together with a description of a week in the life of a "not so famous" one, add a leavening of the particular to the many generalities which such a book necessarily contains.

Yet certain criticisms must be made. I am sure that teachers will find it an excellent book; I am not so sure about students. First, it would seem that Professor McLaughlin is writing for a more mature and sophisticated person than the high-school senior or undergraduate student, for whom the book is intended, normally is. Too much material that is irrelevant to the main interest is included. Louis Kahn's abstruse theories are fascinating to the initiated but, as I found out when I gave the book to a young man interested in studying architecture, quite bewildering to others. "Too long, too complicated, not very exciting" was the gist of his illuminating comments on the book as a whole.

It is from lack of excitement that it suffers most. Although I am certain that we all concur in recognizing the need to present the cold hard facts of life, there is after all another side to the matter—the elation, the joy, the deep emotional satisfaction that come from producing architecture. Nowhere in the book does Professor McLaughlin manage to convey

The seminar course is, in fact, mainly intended to deal with the problem of architectural evaluation which, in turn, requires an examination of the fields of perception and creativity. The seminar is also designed to form a natural sequel to the course on architectural research in that it affords the application of the methods dealt with in that course to substantive problems in a defined area of interest. It also enables the students actually to carry out a modest research project on basis of methods learned in the previous semester.

The first session starts with a description of course intent and mechanics of operation. This is followed by discussions on the nature of reality, on the relativity of human perception of reality and on the limits of man's comprehension.

Another session is devoted to the study of temporal and eternal elements in historical perspective. Major changes in architecture, reflected in so-called historic periods or styles, and minor changes, reflected in schools of thought and individual expression, are topics for discussion at this time.

Two sessions concentrate on the evolution of perception as a subfield of experimental psychology, with special emphasis on visual perception and the characteristics of the visual space. Reference is made to work of the Gestalt school and of the Ames laboratory, also to more recent explanations arrived at by psychologists on the ways in which we perceive our visual world.

Two sessions deal with creativity, the creative process and the creative personality. Discussions on the creative process include the identification of levels of creativity and of steps in the creative process, from exposure and incubation to illumination and production. Creativity is then examined in relation to problem solving, and the characteristics of highly creative individuals are described in the light of recent studies on personality assessment.

Based on the premise that a pre-requisite for the evaluation of an architectural work is an awareness of the process of its creation, the study of the creative process and of the creative personality is followed by a study of decision theory. The creative act implies decision-making at certain points where choice is made among possible strategies. Reference is made to some of the recent writings in the formidable literature on decision-theory and operations research. Intuition and rational action are differentiated. Students are introduced to the rudiments of statistical decision, the theory of games, the notions of certainty, risk and uncertainty, and the kinds of decisions likely to be made under varying conditions.

The directed portion of the course proceeds with a discussion of systems of evaluation proposed or implied by the work of theorists in architecture. Recent writings proposing bases for criticism or hierarchical point-systems of evaluation are assessed.

Emphasis is placed on the roles of values and of communication in the development of any system of evaluation. Three sessions are scheduled for discussions of these subjects. Discussants probe the ways in which values are reached, held and enforced by individuals and various sectors of influential and power-wielding groups in our society. They review the merits of the means which the architect has at his disposal to communicate his ideas to the world. This leads to a discussion of poles of communication flow, the problems of communication in time and the characteristics of the various methods of verbal, graphic, three- and four-dimensional as well as composite methods of communication.

The complexities encountered in any evaluation attempt are illustrated by the examination of the principle of order or unity in diversity as used in architectural criticism. Excerpts from works of theorists on architecture and architectural criticism are used to extricate overlapping or sometimes seemingly conflicting interpretations given to many terms falling in the range of monotony to chaos.

Topics outlined in the above description of course content are handled in a typical pattern of assigned reading and presentations by the instructor and/or guests, followed by class discussions. This instructor-directed portion of the course is paralleled by a semester-long assignment in which groups of students take the lead, under the general supervision of the instructor, in designing and executing a research project falling within the general area of interest of the course. Three projects have been conducted in this fashion during the spring semester.

The first project dealt with the "Representation of Architectural Space." Students produced sets of representational material for an existing architectural space sequence. Methods of representation used included sequential perspective sketches, a solid model representing negative space, a conventional model and isometric drawings. Students conducted series of tests on observers who were taken through the actual spaces, then asked to react on the adequacy of the different methods in conveying specific characteristics of the spaces, or vice-versa. Results were analyzed and plotted in graphs showing the relative merits of the methods investigated.

The second project dealt with "Monotony-Variety-Chaos from the Viewpoint of Architecture." Two-dimensional compositions were prepared illustrating various degrees of complexity of design. Slides recording these compositions were shown to two groups of observers. The first group of observers had to determine the degree of complexity they ascribed to the compositions on a given scale going from very simple to very complex. The second group of observers were asked to indicate the degree of interest aroused by the slides, and to choose from a list of terms the one that best described their feeling. Re-

and the various forms it takes are surveyed. Appropriate fields of inquiry for architectural research are investigated. Ideas expressed by important contributors toward theory development in architecture are reviewed.

Subsequent sessions are a little more technical in nature. A session on the conduct of research discusses the characteristics of the scientific method and of variants which have become accepted practice in several fields, such as formulative, exploratory, descriptive and diagnostic studies. The process of conducting research is analyzed and research tools used at various stages are investigated. Bibliographic surveys, statistical data, sampling techniques, questionnaires, interviews, tests, experiments, case studies, models and instrument development are assessed.

The student gets acquainted with facilities existing on the campus for help in the design and processing of research projects. Special emphasis is placed on the work of the Survey Research Center, its operations and facilities for data processing and the method of approach that is characteristic of survey research.

The modalities of research design are discussed as a prelude to the formulation by the student of an individual proposal for research. Recommendations are given on the method of selection of a topic, on the formulation of a problem, its focus and manageability, on the role and place of hypothesis formulation, on the nature of evidence necessary, on the anticipation of steps in research procedure and of the tools required.

The organized part of the course includes presentations by guests who give an account of specific projects which they formulated and in which they were personally involved. The guest explains how the idea of the research originated and the steps followed to translate the idea into a researchable question or hypothesis. He then proceeds with a detailed description of the conduct of the project, of the problems encountered in it and of the results obtained.

Presentations made at all sessions are followed by discussions in which the students, the instructor and invited guests participate. The student's share of the task during the semester includes his participation in these discussions, a sizable volume of reading from an assigned list, the preparation of two written reports and a verbal presentation of each report for discussion by the group.

The first report consists of the description and evaluation of a significant research project. Criteria are established for the choice of projects to cover a wide range of interest. Duplication of effort from student to student and from year to year is avoided. Every report consists of two sections, one descriptive, giving a factually accurate and systematic summary of the selected project, the other evaluative, offering an appraisal of the project in terms of its importance for architecture, of its general approach and of its craft. Reports produced every year are bound in a volume and deposited in the departmental library. The collection of projects reported so far constitutes a good sample of the research effort in the United States and abroad as it may relate to architecture. This collection has become one of the tools used as collateral reading and reference material for the course.

A similar procedure of reporting and recording is followed for the second report in which the student is asked to design an original research project. Preliminary discussions on the student's interest clarify the researchable question within the student's selected topic. The student then conducts his bibliographic search for previous work relevant to the question at hand. He describes how research should be conducted to answer the question and to test any posed hypotheses. There is, of course, no time to carry out the research proper during the semester, but the student is expected to imagine how the research could be conducted, given time and support. This problem has resulted in a collection of research ideas, many of which are certainly worth being pursued. Again here, the collection of reports, deposited in the departmental library, has become a useful tool to illustrate the range of ideas that architectural research can encompass and to introduce new students to the intricacies of research design.

Seminar in architecture

This optional course, given in the spring semester, deals with topics related to the theory and practice of architecture, with a major theme selected in advance for the semester. "Housing Problems" constituted the theme for the course for some years. During the spring term of 1962, the theme was "Perception, Creativity, Evaluation." These themes reflect, of course, some of the major interests of the author. The course on housing problems followed a more or less established norm for dealing with the subject, but with some emphasis on urban esthetics and the appraisal of housing developments. The course developed last spring on perception, creativity, evaluation, is much more original in form and content. It is probably the first attempt to deal with these subjects in a comprehensive and related fashion within a graduate program of architecture.[4] An account follows of the course as offered for the first time during the spring semester of 1962.

Perception, creativity, evaluation

The development of this course is to some extent a result of the author's interest in the field of architectural evaluation. This interest also led to the formulation in 1958 of "A Research Program on Systems of Judgment of Architectural Design,"[5] to the conduct of a small research project which produced in 1960 a report on "Interest Distribution in the Evaluation of Architectural Design,"[6] and to the presentation at the 1961 Spring Conferences of the Building Research Institute, National Academy of Sciences, of a proposal for a research project on "Design Decisions and the Critical Evaluation of Architectural Works,"[7] to which the reader is referred for additional information.